





DRAFTSMAN'S HANDBOOK

**A RESOURCE AND STUDY
GUIDE FOR DRAWING
FROM LIFE**

PART I



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FOR DRAWING FROM LIFE**

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For Dorothy
For Her Passion for the Arts
Which is Joined to and Has Strengthened
My Own

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For the year ending 31st March 1904

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To Balance forward 1st April 1903

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Balance forward 1st April 1903

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I. INTRODUCTION

These single concept sheets on drawing from life have been pulled from the anvil of studio work and from years of life drawing instruction.

Each instruction sheet offers a concept or strategy that has sustained and endured principally because it has been found to work.

The ideas illustrated are not offered as rules but bear the greater advantage of time-tried results from countless situations requiring direct study from the model.

The purpose of this manual is to set out clearly and directly a framework for learning the craft of drawing from life as a foundation for serious figurative work.



II. STATEMENT ON THE CRAFT AND ART OF DRAWING

STATEMENT ON THE ART OF DRAWING

Drawing is fundamentally an act of interpretation which enlists contribution from perception, understanding, aesthetic sensibility, and experience. These are the elements which are harmonized in drawing. There are other factors which make their contribution, including practice in the use of methods and materials, knowledge gained from study and experience, and decision based on that which is intended and envisioned in the work; these factors and others claim and share the hand of the draftsman in the art of drawing.

STATEMENT ON THE CRAFT OF DRAWING

Not much is possible without a foundation in the craft of drawing – of knowing the methods and materials, of being thoroughly familiar with some of the strategies for appraising the work throughout the entire process, and of working with a sense of coherence in sustaining the integrity of a drawing from start to finish. Much of this may be studied, practiced, and learned, for a few basic strategies form the foundation of drawing from life as defined here.

This handbook therefore identifies and illustrates concepts and strategies supporting the craft of drawing in order to approach the art of drawing. One need only recall that the finest draftsmen throughout the history of art sustained their study of drawing and the construction of the figure throughout their careers. Clearly an immense respect for the human figure in art supports the study of it; in turn, the greater the familiarity with it, the more authority evident in the work and the more sovereign the expression.

Drawing is an art. Drawing gives form to ideas and feelings by seizing and transforming them, endowing them with the substance of graphic form. Through drawing the spiritual realm is grafted to the material; thoughts are given form and expression. It is through the art of drawing that thought, feeling, and image are harmonized. The boundaries of experience are widened and shared and brought into the context of our lives by the hand of the draftsman.

It is to this larger purpose that this manual supports the art of drawing by addressing the craft of drawing first in order to provide clear stages for learning and experience which support the draftsman's art.



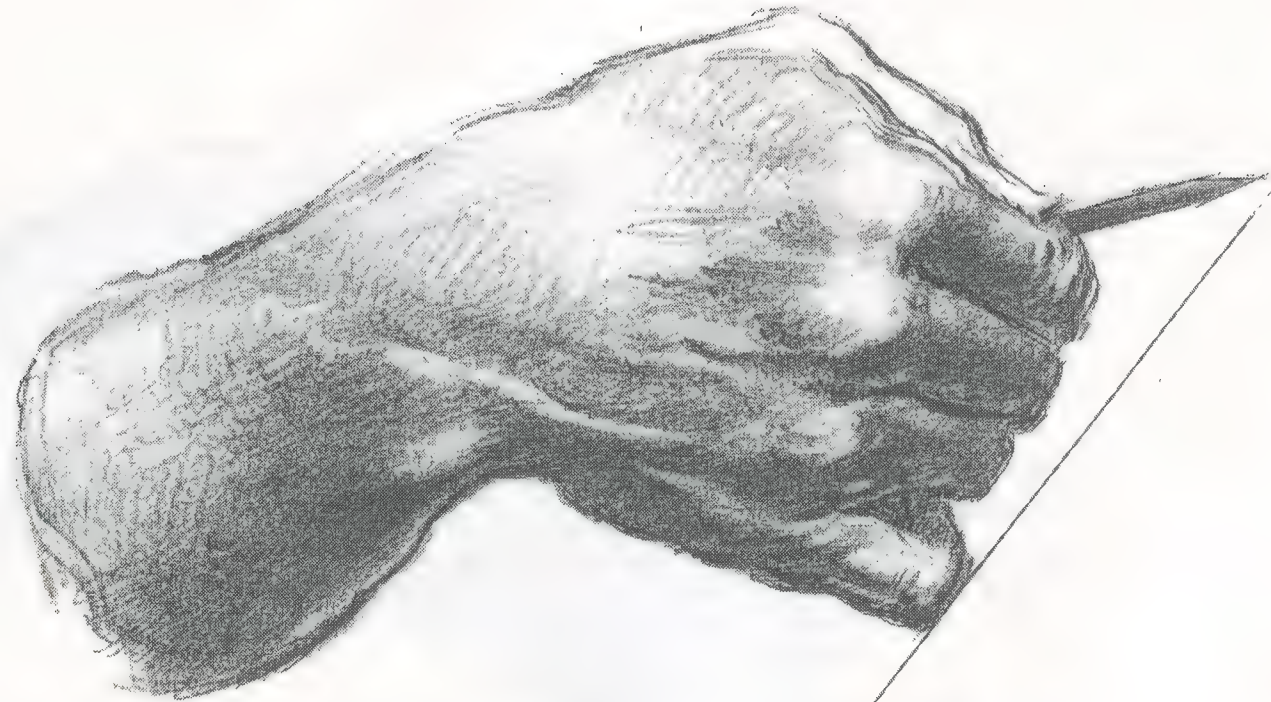
III. FREEHAND DRAWING

The central issue in freehand drawing from life is to remain responsive throughout the course of drawing to all contributing factors (perception, knowledge, materials and methods issues, aesthetic sensibility, etc.) with a high degree of flexibility in order to respond with coherence to ideas, decisions, strategies which must be permitted to make their contribution.

No sets of strategies, rules, or suggestions serve the draftsman every time in the same way. A draftsman must therefore start fully equipped to deal with a realm of issues and circumstances, expecting always to discover something new and to have the resource to sort out, solve, and use whatever it is.

Broadly defined, a drawing is the record of the limitless interface of mind – of will, intelligence, and sensibility – joined to a skilled and experienced hand.





Draw with an open hand. The advantages are too significant to ignore. Let the fifth finger rest on the page along with, sometimes, the fourth and third fingers. These points of support allow one to draw with the arm, to draw from the shoulder instead of "writing" the drawing by holding the charcoal or pencil as one would when writing. Among the reasons for this suggestion are:

range of motion

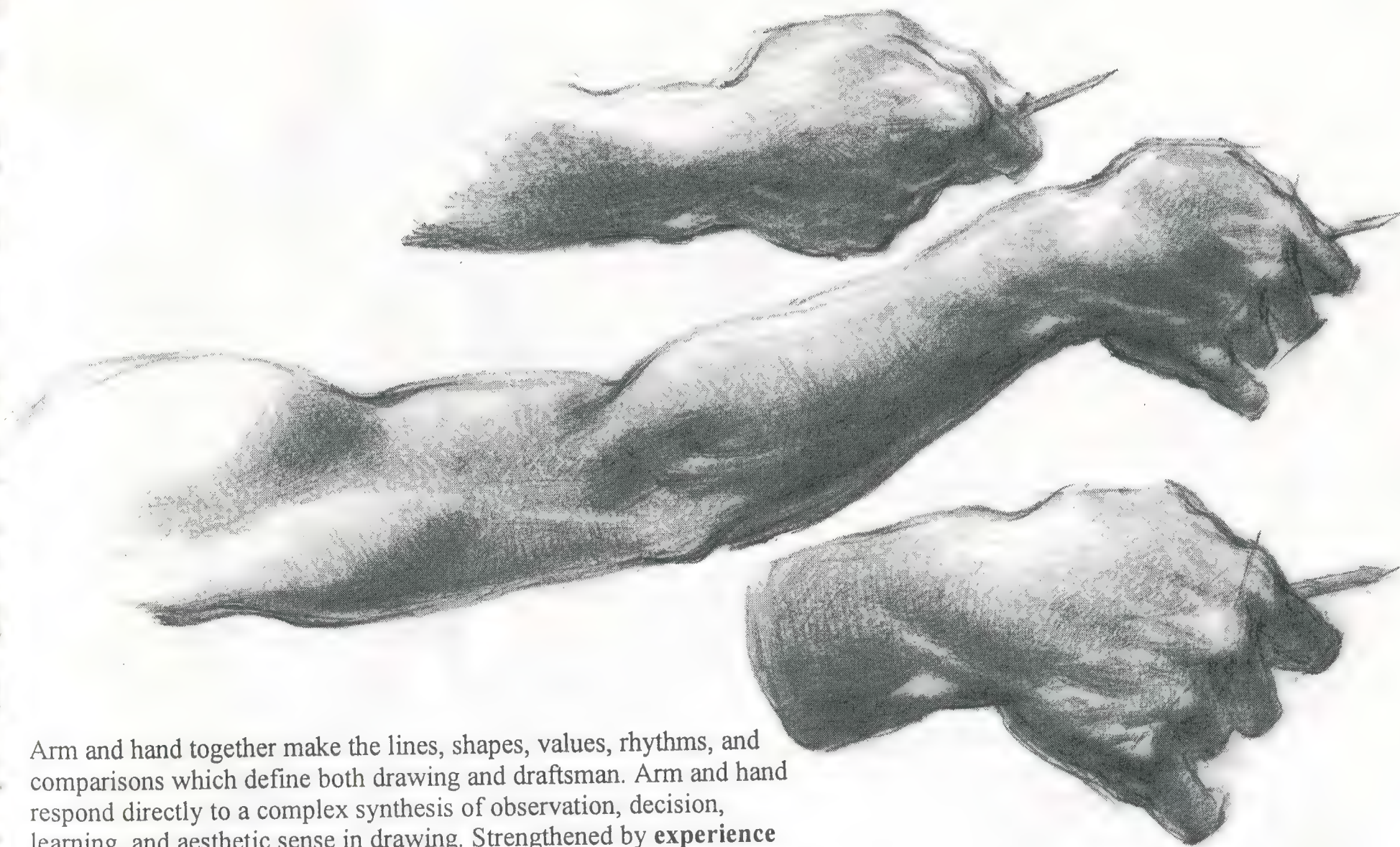
line quality

movement

viewing the drawing

appraisal of the drawing

monitoring the overview

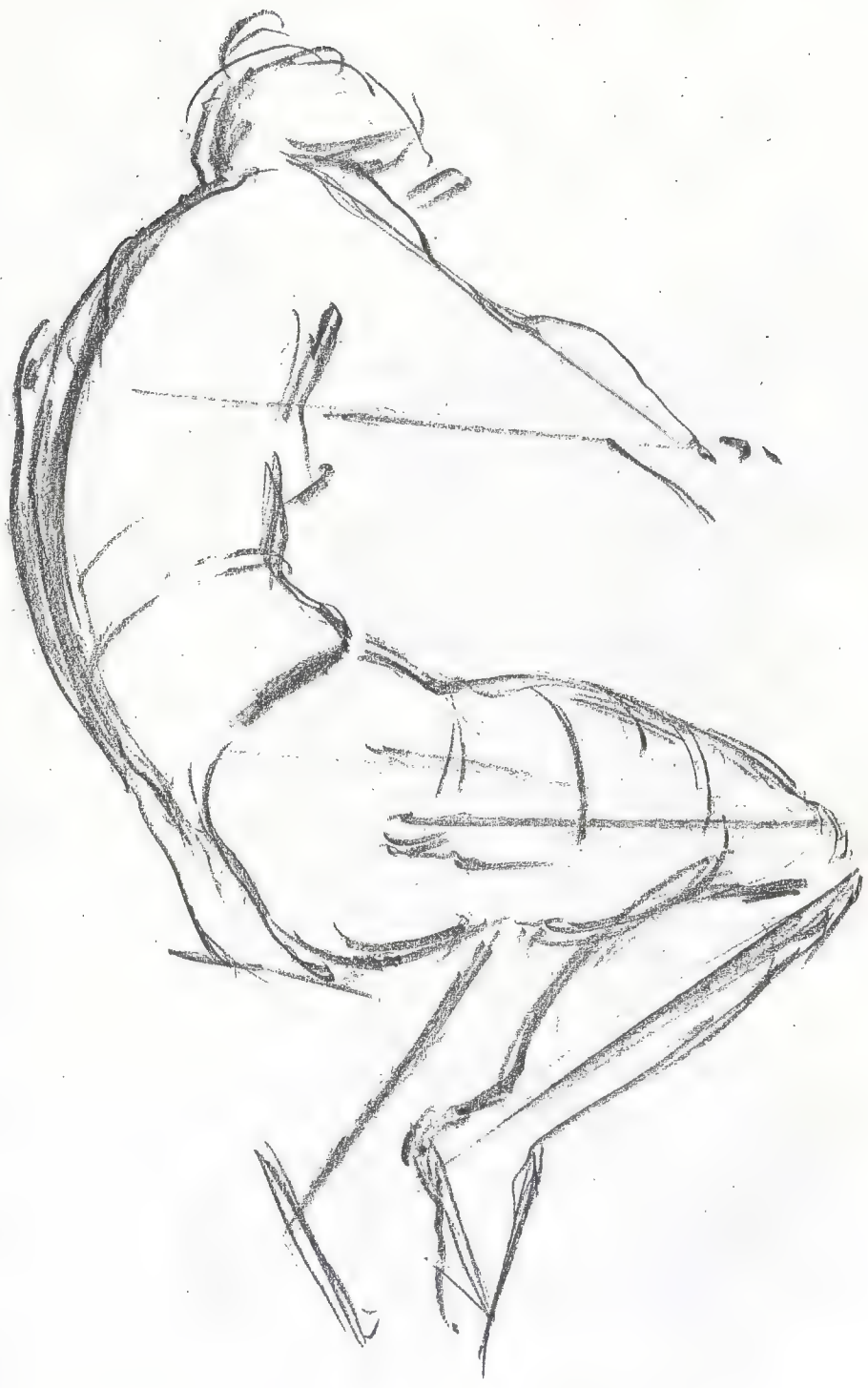


Arm and hand together make the lines, shapes, values, rhythms, and comparisons which define both drawing and draftsman. Arm and hand respond directly to a complex synthesis of observation, decision, learning, and aesthetic sense in drawing. Strengthened by **experience** the hand becomes the instrument of craft and art in drawing for through its delicate and infinite responses **the transformation from idea to image is made.**

Draw with your arm fully extended, and with an open hand.

Start the drawing with a full sense of the priority of things – the general sense of the figure in its entirety, the action, and an abbreviation of everything throughout. Details have little application at this stage; the larger relationships are everything. A draftsman must learn that this is so, and that to focus on lesser parts will distract and immediately replace one's sense of the totality with a welter of unrelated details.





Freehand drawing must accept contribution from any idea or strategy which can support the active learning, the search for the overview, the sense of volume, lines which are used to discover the relation of parts to each other and to the whole, the priority of lines of action, sizes, the use of reference lines wherever the choice of a line drawn requires evaluation, together with a significant number of anatomical references both located and related **in order that the drawing may advance with some coherence in constructing an image.**

The manner in which these factors are harnessed **is immediately apparent** in the first stages of setting up a drawing since every line usually has some purpose and thus the scope and intentions of the work become clear.





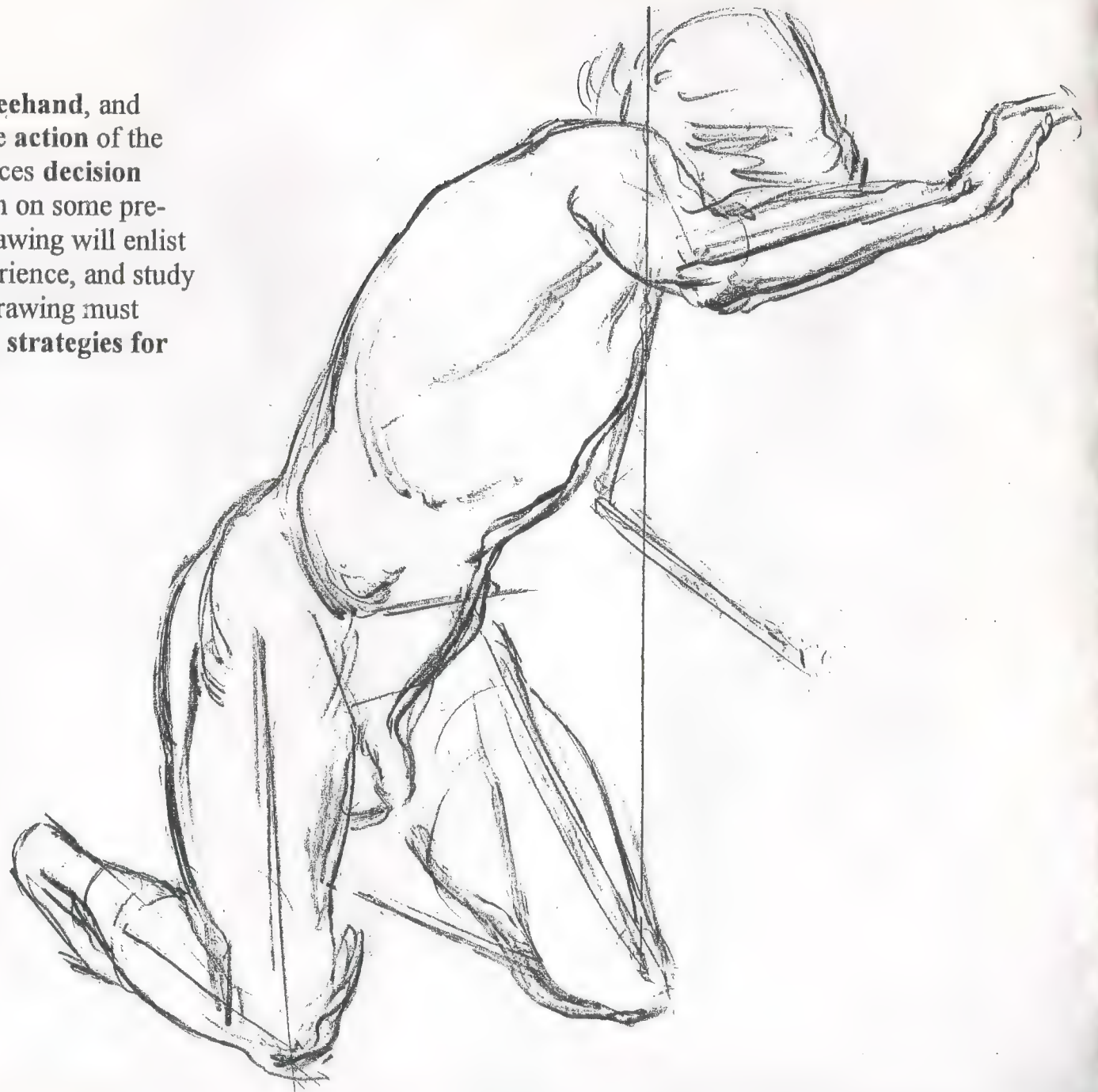
Developing a strong **sense of the overview in some abbreviated form** is a good first strategy since it seeks **the framework** for the drawing while **deferring attention to details**. Starting well depends not at all on the amount of detail but much more on working out a general set of lines **corresponding in a broad sense to the relationships of position, the action, and to the relationships of size, the proportions.**

To study the entire figure, the **overview**, in this abbreviated form puts one's focus where it is most needed – **on the relation of the larger aspects of movement of the figure and its unifying rhythms.**

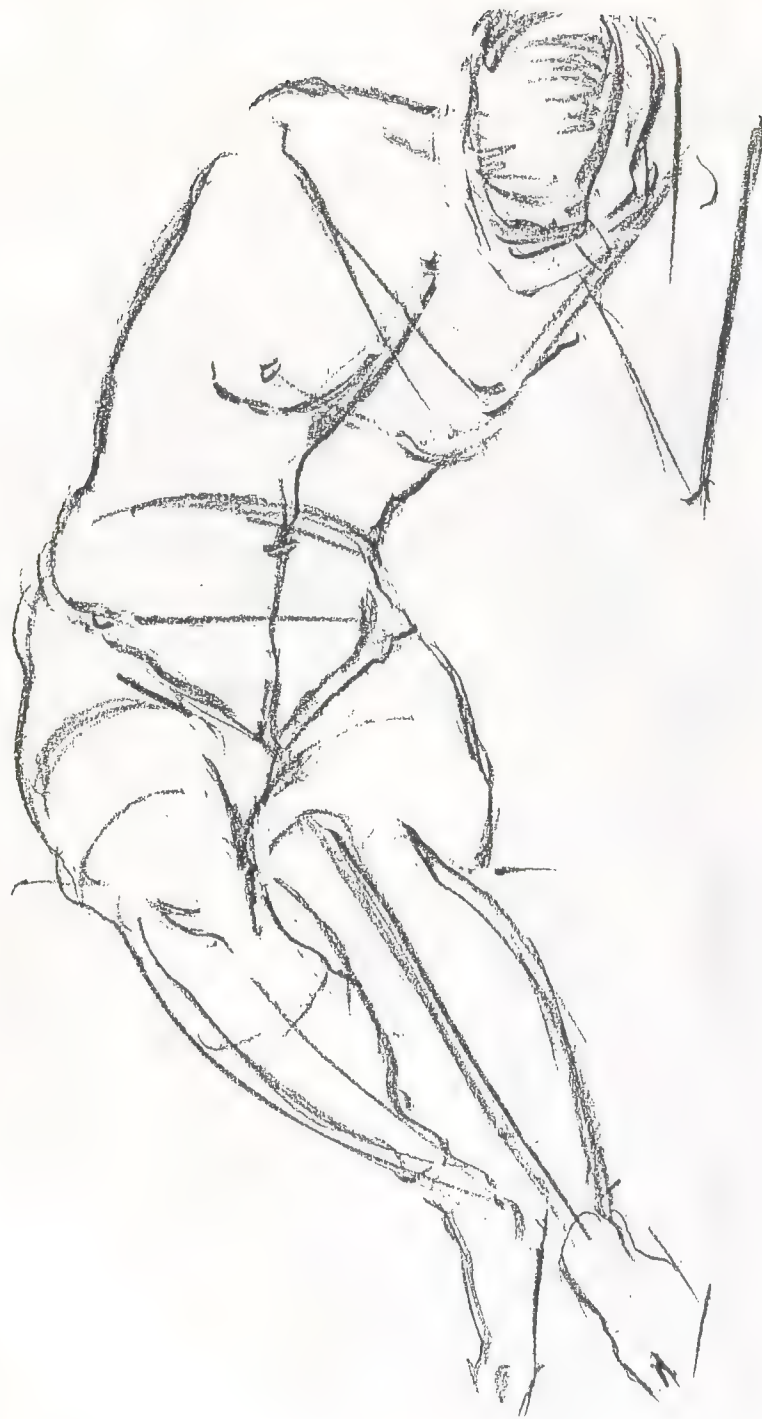




Address the drawing directly, **freehand**, and with a sense of the **overview**, the **action** of the figure taken as a whole. This forces **decision** based on **observation** rather than on some pre-conceived set of standards. A drawing will enlist contribution from learning, experience, and study of principles and methods, but drawing must start with a direct approach **with strategies for learning rather than rules.**





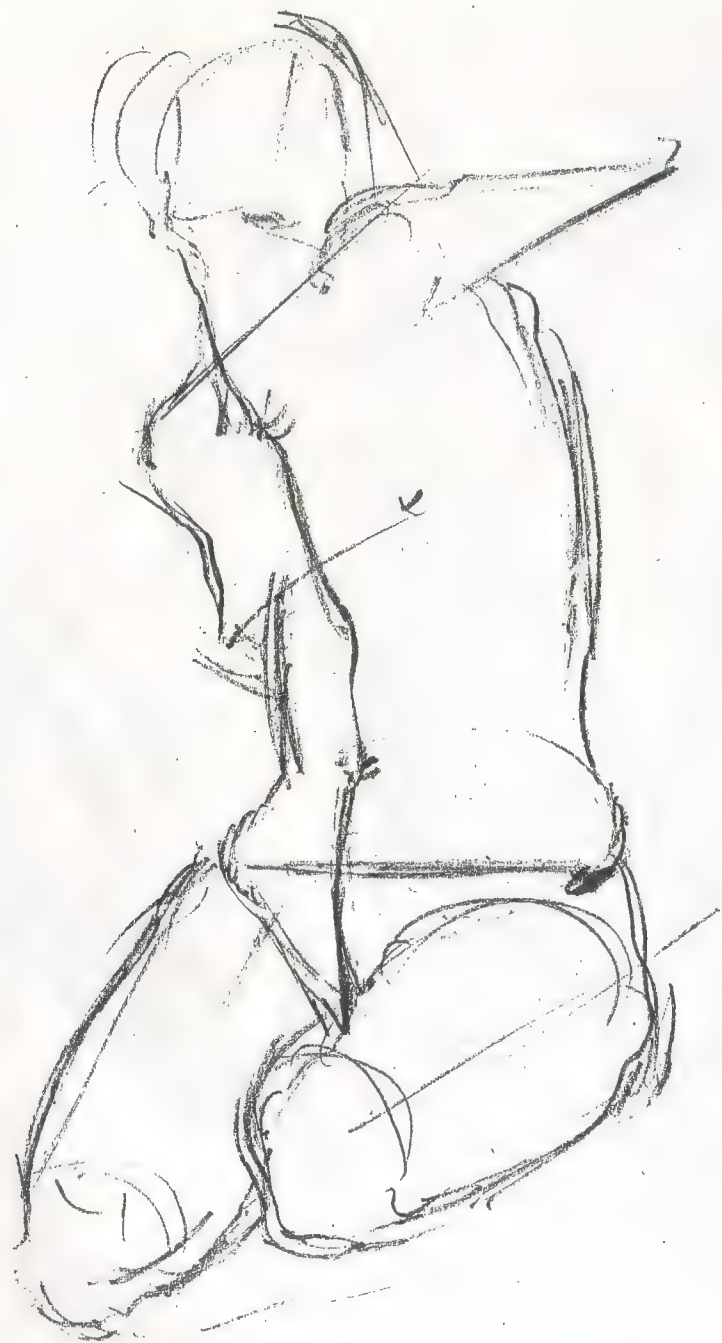


The strategy of **linear drawing** as against modeling is recommended since the major issues of the **action** and the **size relationships** always require some adjustment. Since the drawing **must remain open to adjustment through the first stages**, **linear drawing** accepts and responds readily to comparisons made to the model and the changes both major and minor which may be made to the drawing; modeling the forms will follow **and depend upon** this linear framework.

Freehand drawing is supported by comparisons of all sorts for action and size relationships; these comparisons are so much a part of the process that one cannot separate the two. Decisions in drawing depend very heavily on comparisons of position and length **made by eye as the principal activity** in establishing the drawing in its first stages.

Drawing seeks decision ; the framework will be found through **visual comparisons**. More formal appraisal and measuring is used **after the freehand drawing** has made its important contribution.







Degrees of finish (line, rendering, modeling form) vary depending on the purpose. Linear studies may better serve in problem-solving such as in anatomical drawing, the direct clarity of *écorché* drawing. The idea is to **gather contribution from experience, anatomical structure, perception, and skill of hand** such that these and other strengths may support the **freehand drawing**.

Drawing is best served by an attitude of openness and unobstruction rather than to be held to fixed limits and rules if it is to be meaningful and authentic.

There is no reason why a good idea, strategy, or observation should necessarily be withheld from making its contribution to drawing.

No strategy or suggestion serves the draftsman every time in the same way but for intelligence, experience, and an attitude toward the work of the studio which remains honest in its purposes.

Theory – the way things should work – must submit to **practice** – the way things actually work – but both make their contribution.

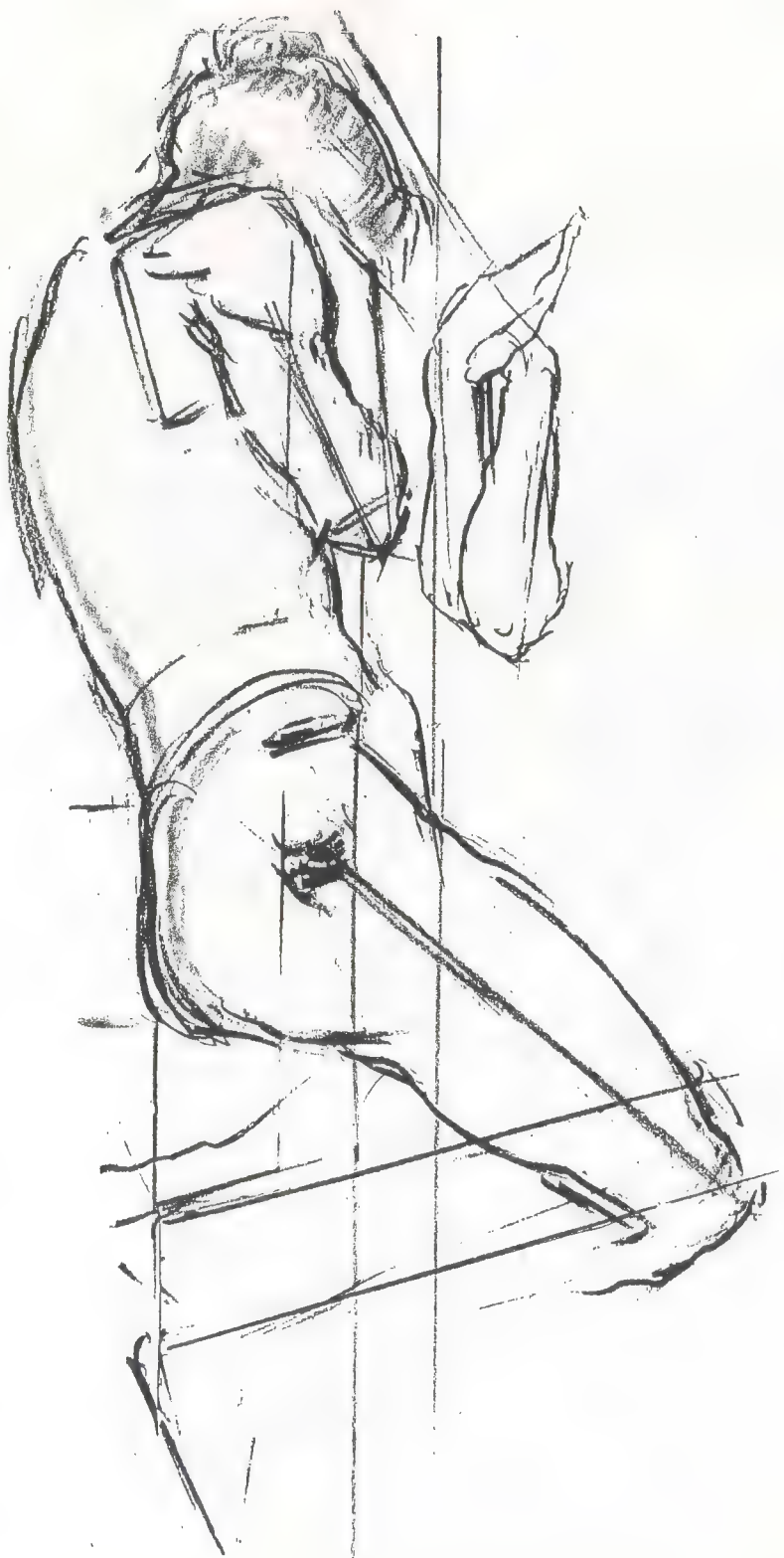
Power of mind and skill of hand remain the principal assets.



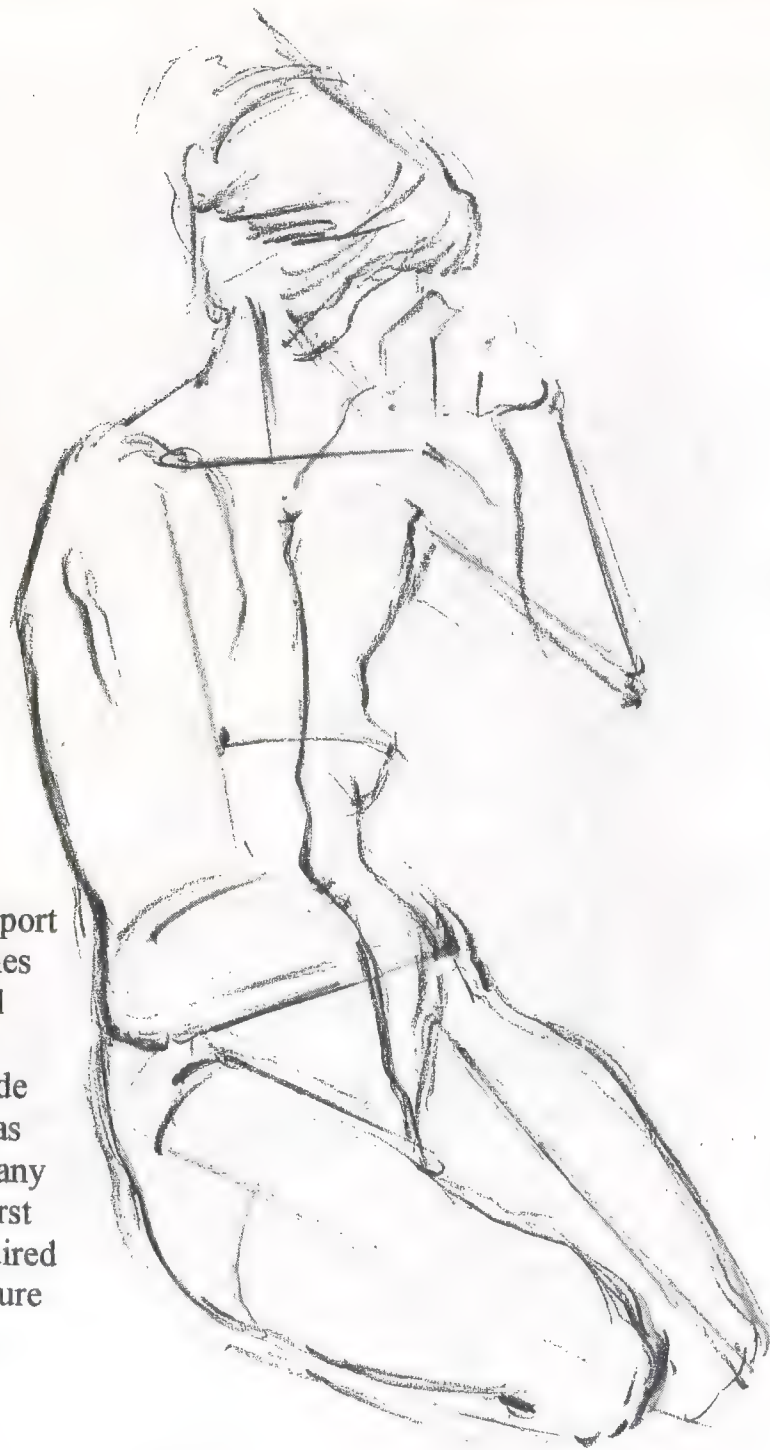
IV. THE FRAMEWORK OF CONSTRUCTION

While **freehand drawing** energetically initiates the work, the **construction of the figure** is the strategy which joins study of the **action** of the figure itself and other modifying conditions (perspective, light source, etc.) with the **anatomical structure** (bonepoint and landmark references) in developing the drawing. Whatever might have necessarily been abbreviated in the freehand drawing stage now receives the attention required to **achieve structure and coherence**.

Construction in figure drawing is a practice which yields control and coherence of **visual and anatomical references** (what is seen and what is known) at each successive stage in the development of the drawing. **The framework of the drawing is established through effort applied to constructing the drawing**; care given to construction separates sketching from drawing.

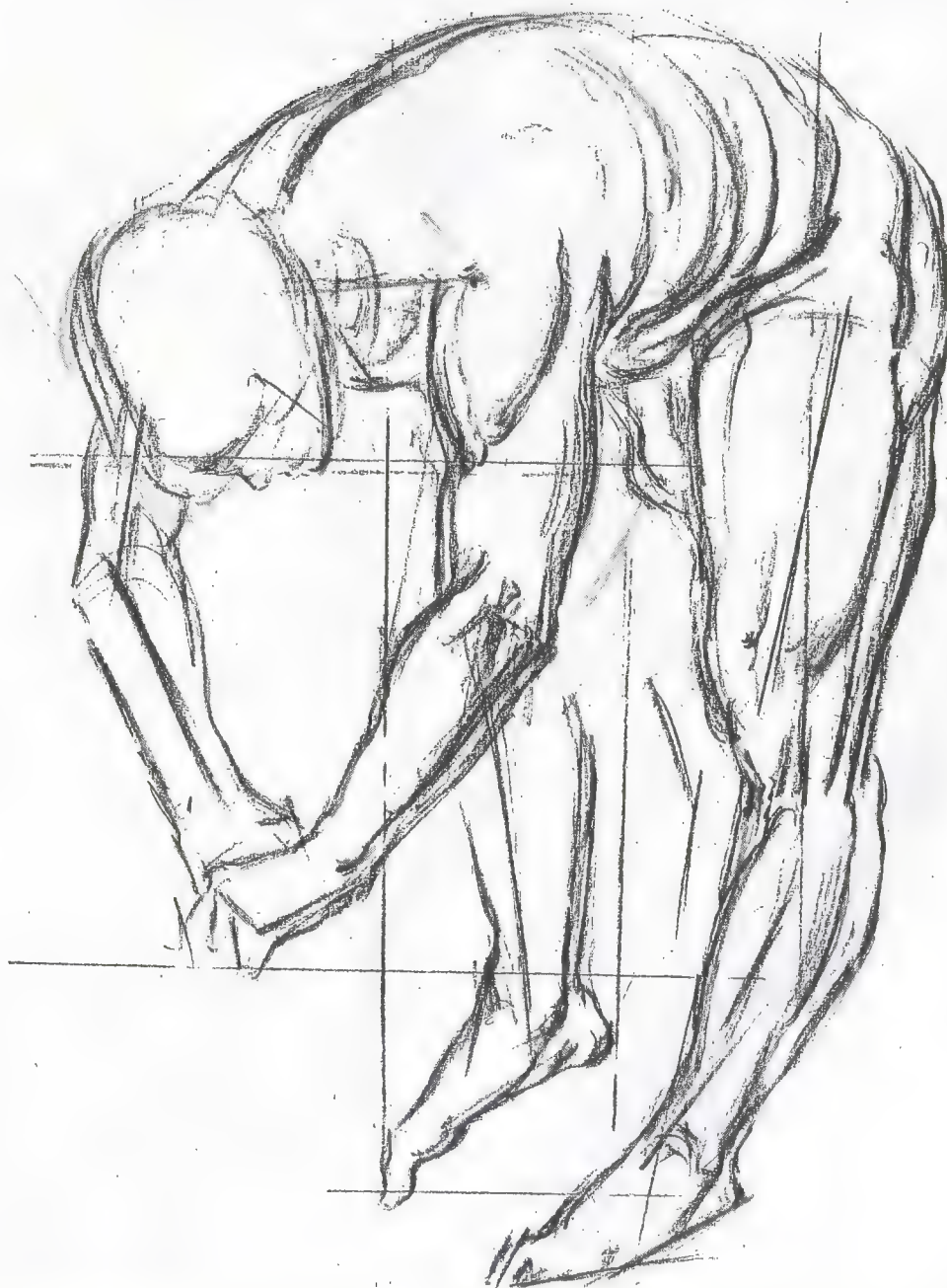


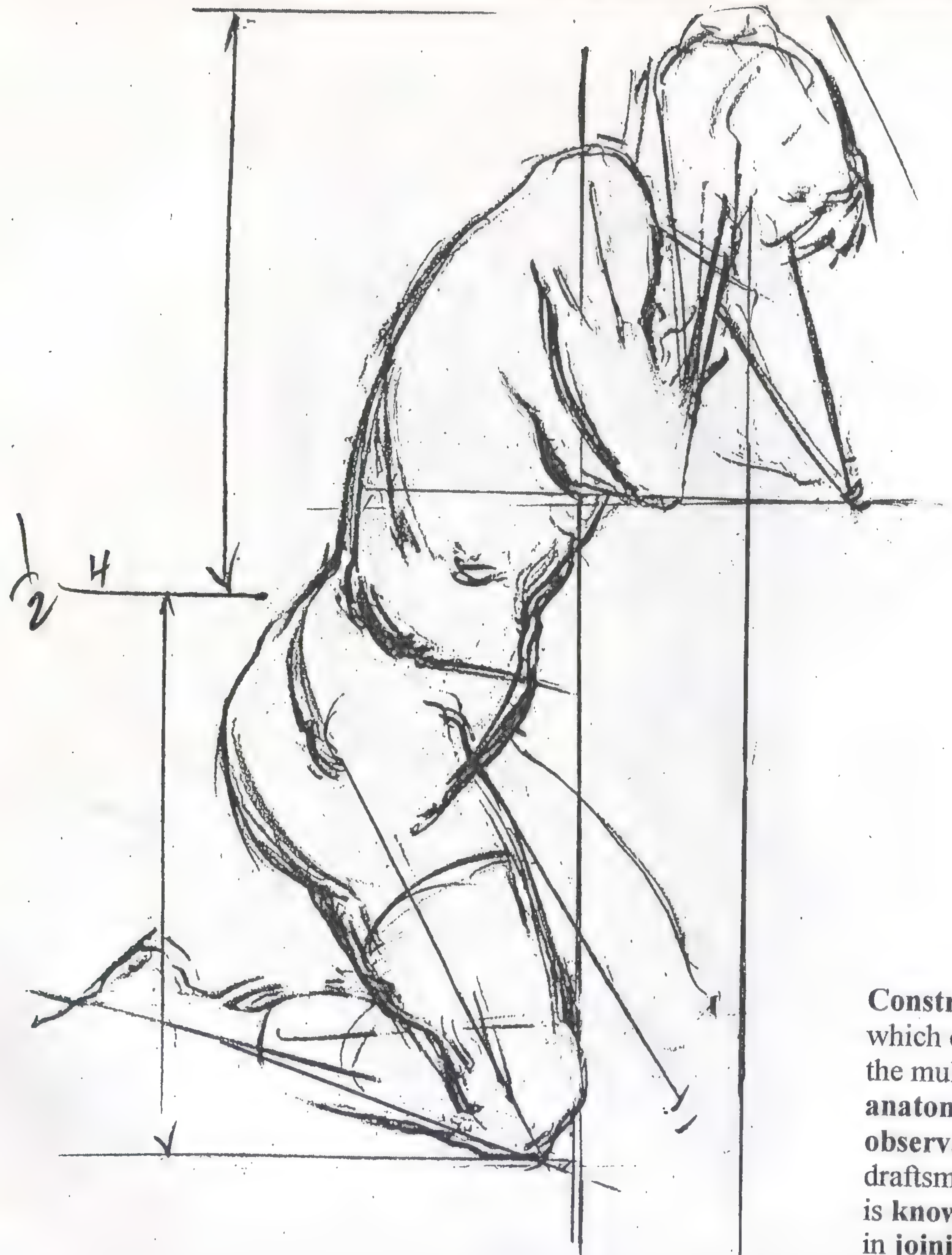
Construction lines support and inform contour lines and shapes. **Appraisal and revisions** of the drawing should be made at an early stage such as is represented here. Many refinements of these first lines are certainly required but the principal structure is sought at this stage.



Basic **construction** of the drawing provides the **framework** for advancing the drawing and introducing further anatomical description. These refinements cannot be introduced unless and until the **action and size relationships** have been studied, drawn, **appraised, and revised.**

Construction acknowledges stages of development throughout the course of drawing from a vigorous freehand beginning to final modeling.

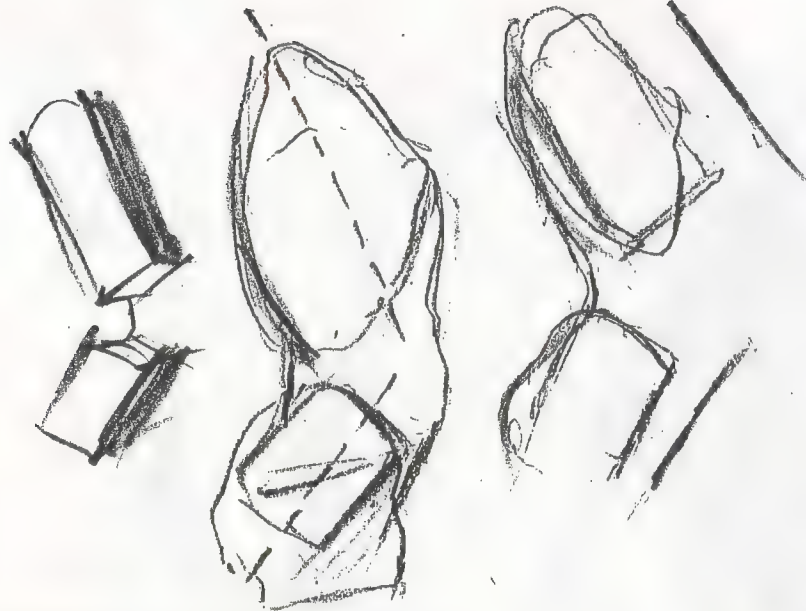




Construction in drawing refers to those strategies which offer **control in interpreting** with coherence the multiple factors which contribute to a drawing: **anatomical references**, information gained by close **observation**, the **perspective** factor, and more. A draftsman must gather these strengths, welding what is **known** to what is **seen**, and with some coherence in **joining these contributing elements**.

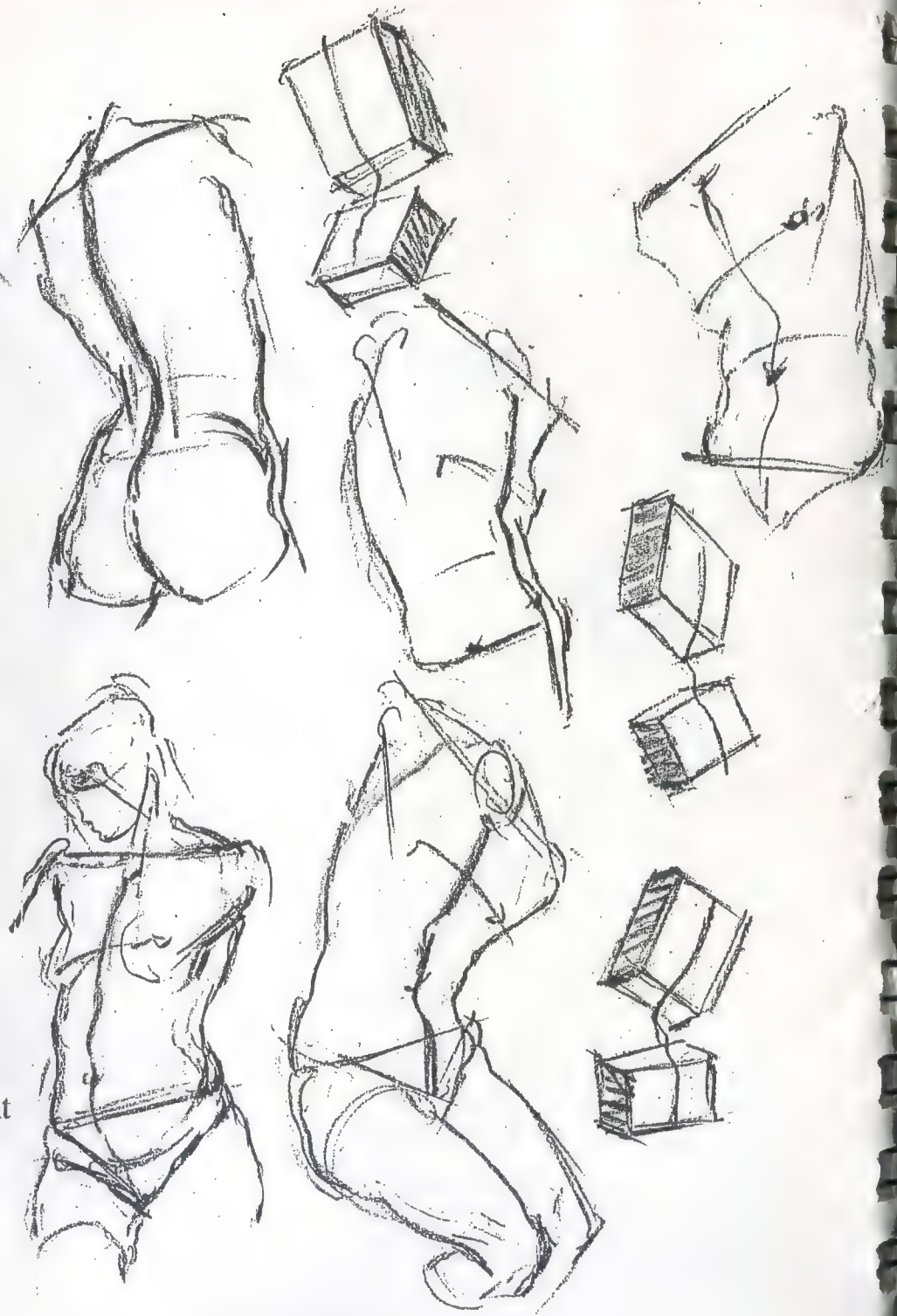
Decisions made in drawing (contours, anatomical structure, definition and refinements) **must contribute to the overview** of the figure at the same time that they yield definition of the parts. This means that the draftsman must keep the figure in its entirety very much in mind **throughout the entire process.**

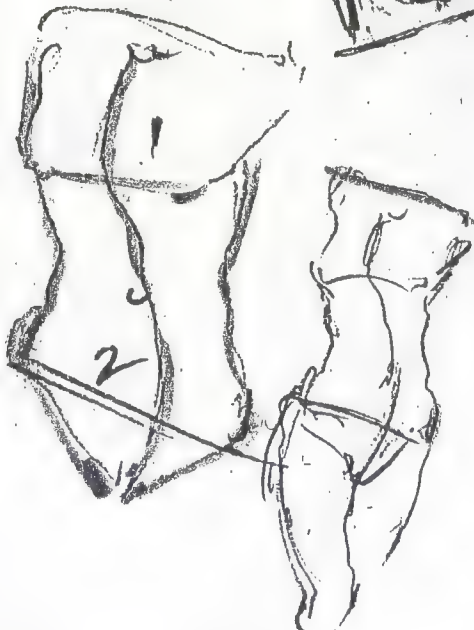




The torso has two major masses – the thorax and the pelvis. These masses have connection through the vertebrae (from vertere , Latin, to turn). The torso is **designed to move**: to flex, extend, rotate laterally, and to rotate the thorax against the pelvis (contrapposto).

The passage of the **median line** or **center line** charts this movement by linking certain landmarks along the anterior (front) plane of the torso. The spine is the **center line of the back** and is useful to the draftsman for the same reason – that the movement through the two masses of the torso may be indicated by one fluent line. Huge problems will arise should this movement be underestimated in the construction phase of the drawing.





Illustrated here are the two block-like forms of thorax and pelvis linked in front by the **median line** and in back by the **spine**. The figure is never static and the torso never monolithic in the literal sense. A figure drawing records a draftsman's **interpretation** of the **movement** through the torso and the entire figure.

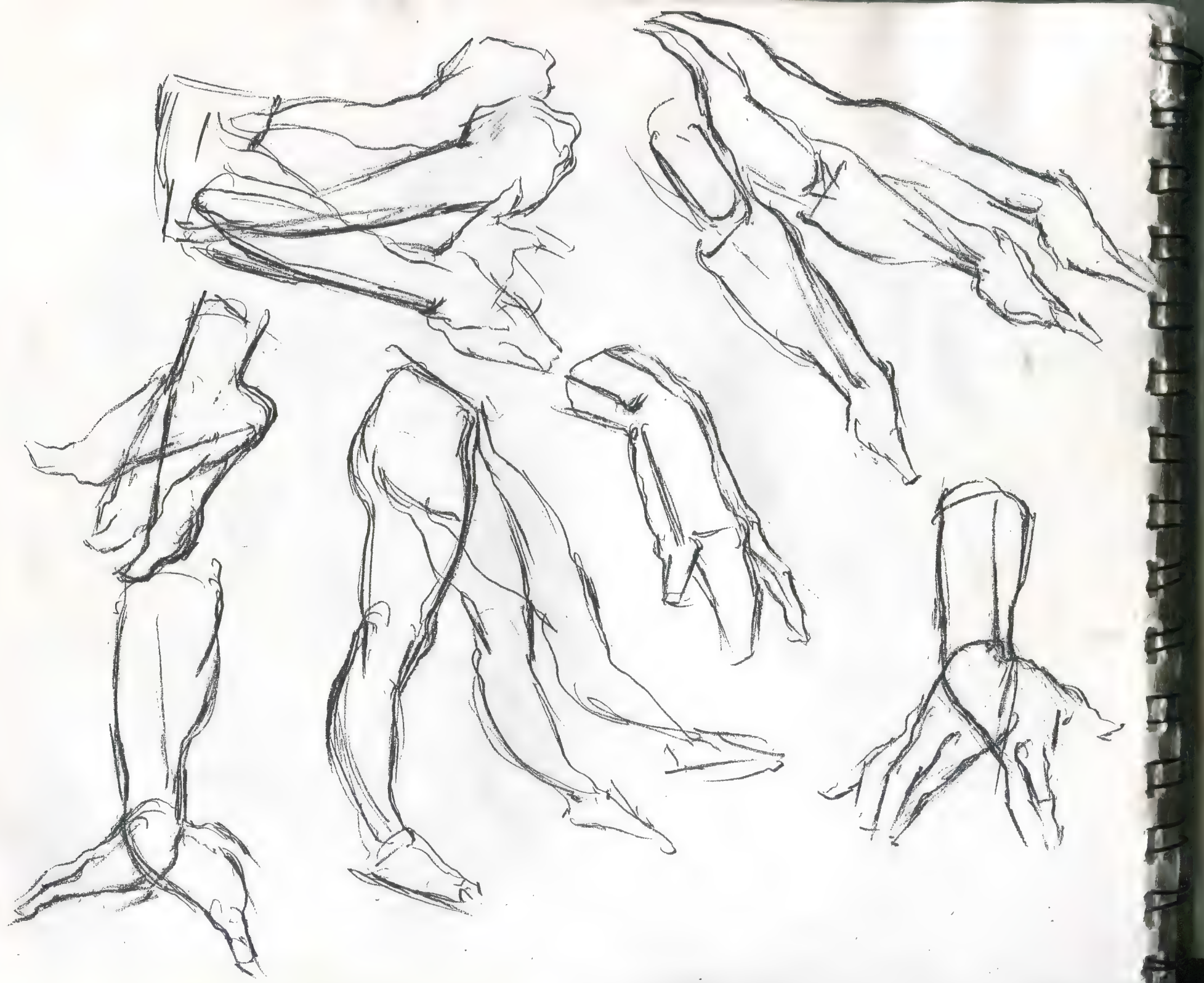
The masses of the torso – thorax and pelvis – hardly change; only their position in relation to each other changes. The passage of the **median line** of the front of the torso is the best **construction line** to record the **relation** of these two masses.

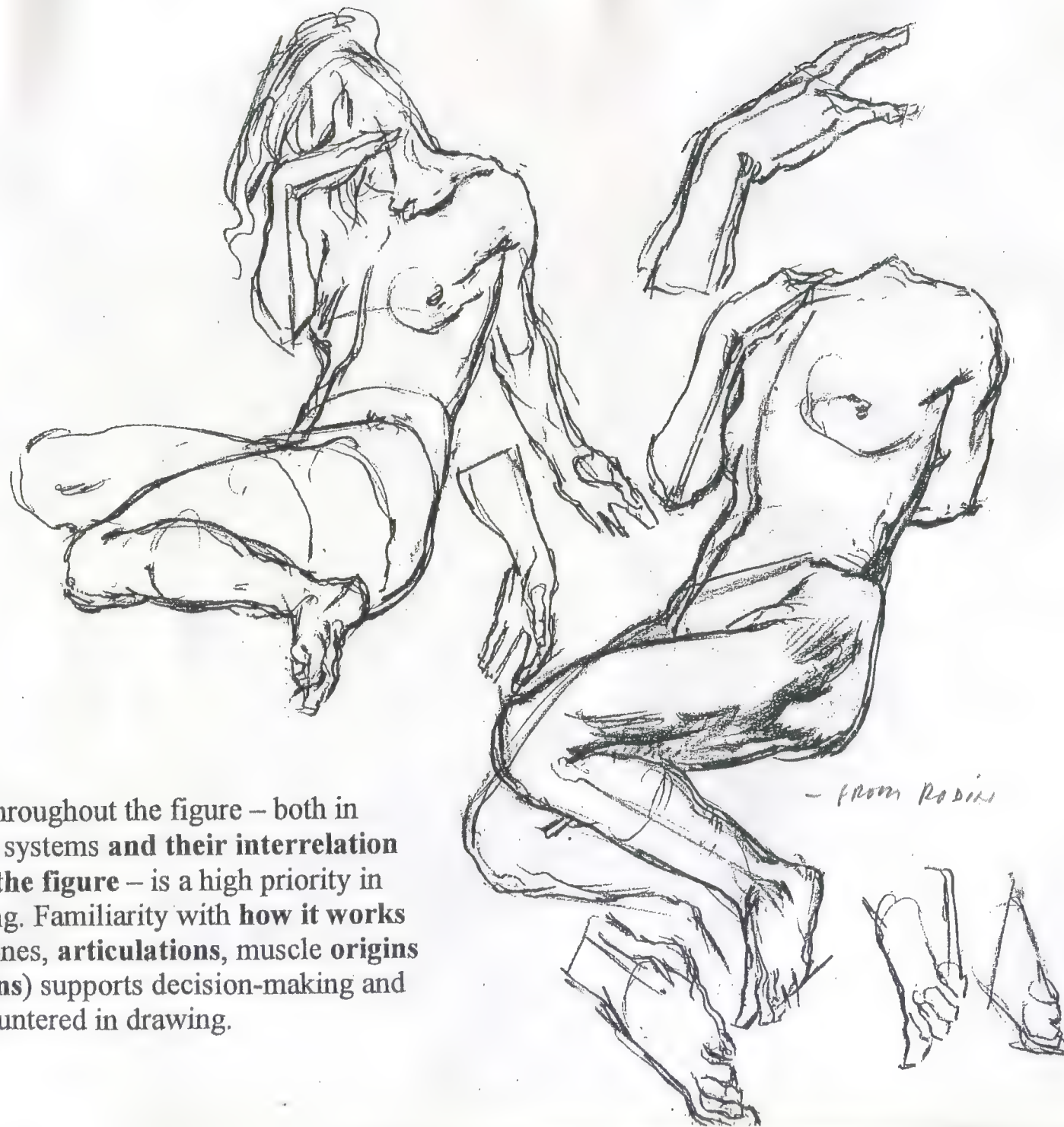


Anatomical landmarks and visual references are joined in **construction lines**. Construction lines provide the framework for the drawing – the direct record of the action and size relationships. **Constructing a drawing** is the practice which adjusts and harmonizes structure and appearance in support of the integrity of the study.



The two masses of the torso are illustrated here; it is suggested that thorax and pelvis be studied in relation to each other as two masses of the torso. The suggestion is to acknowledge movement by a conception which separates these masses first and only later joins them by the use of the median line.





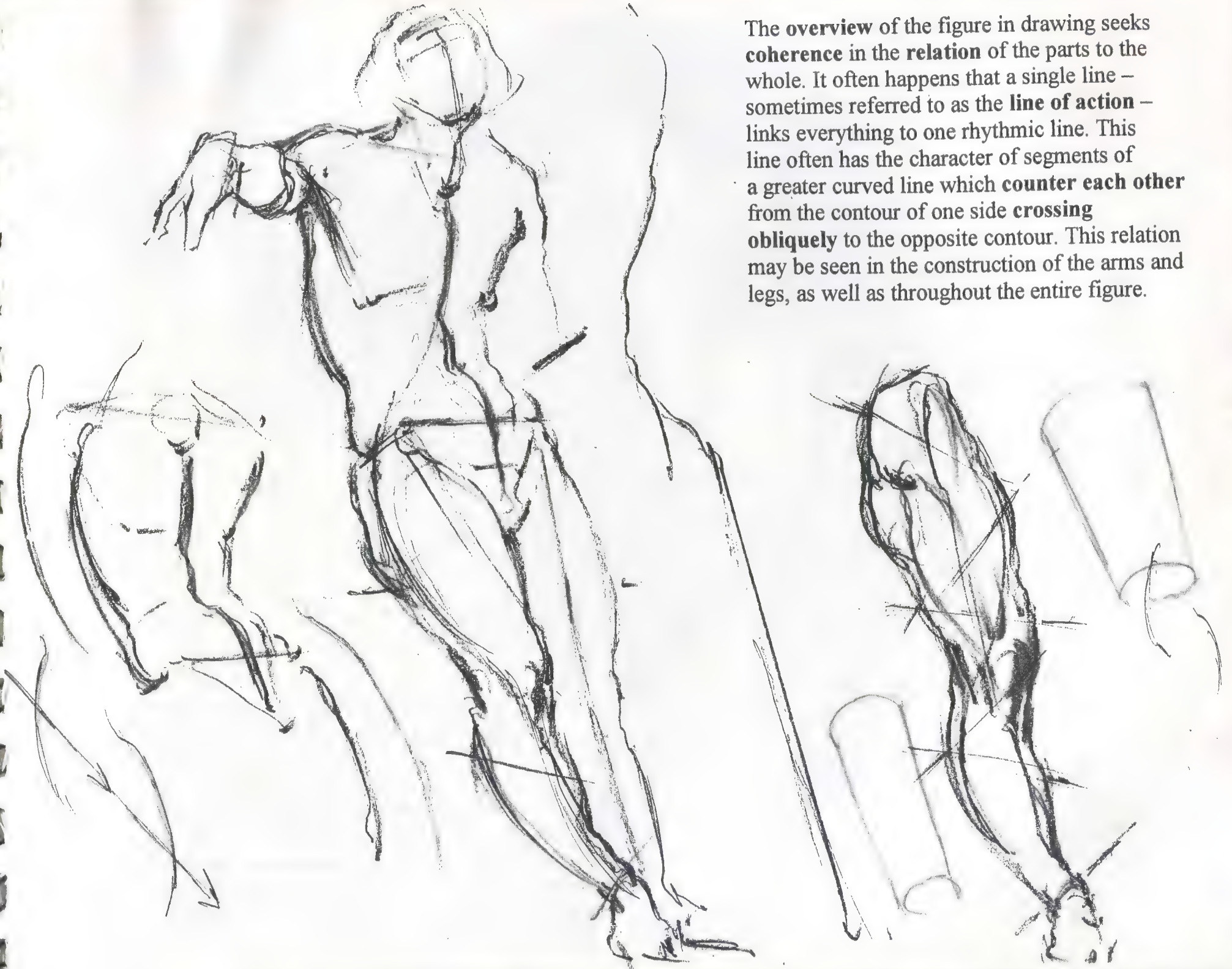
Movement throughout the figure – both in specific joint systems **and their interrelation throughout the figure** – is a high priority in figure drawing. Familiarity with **how it works** (shapes of bones, **articulations**, muscle **origins and insertions**) supports decision-making and choices encountered in drawing.

– from Rodin



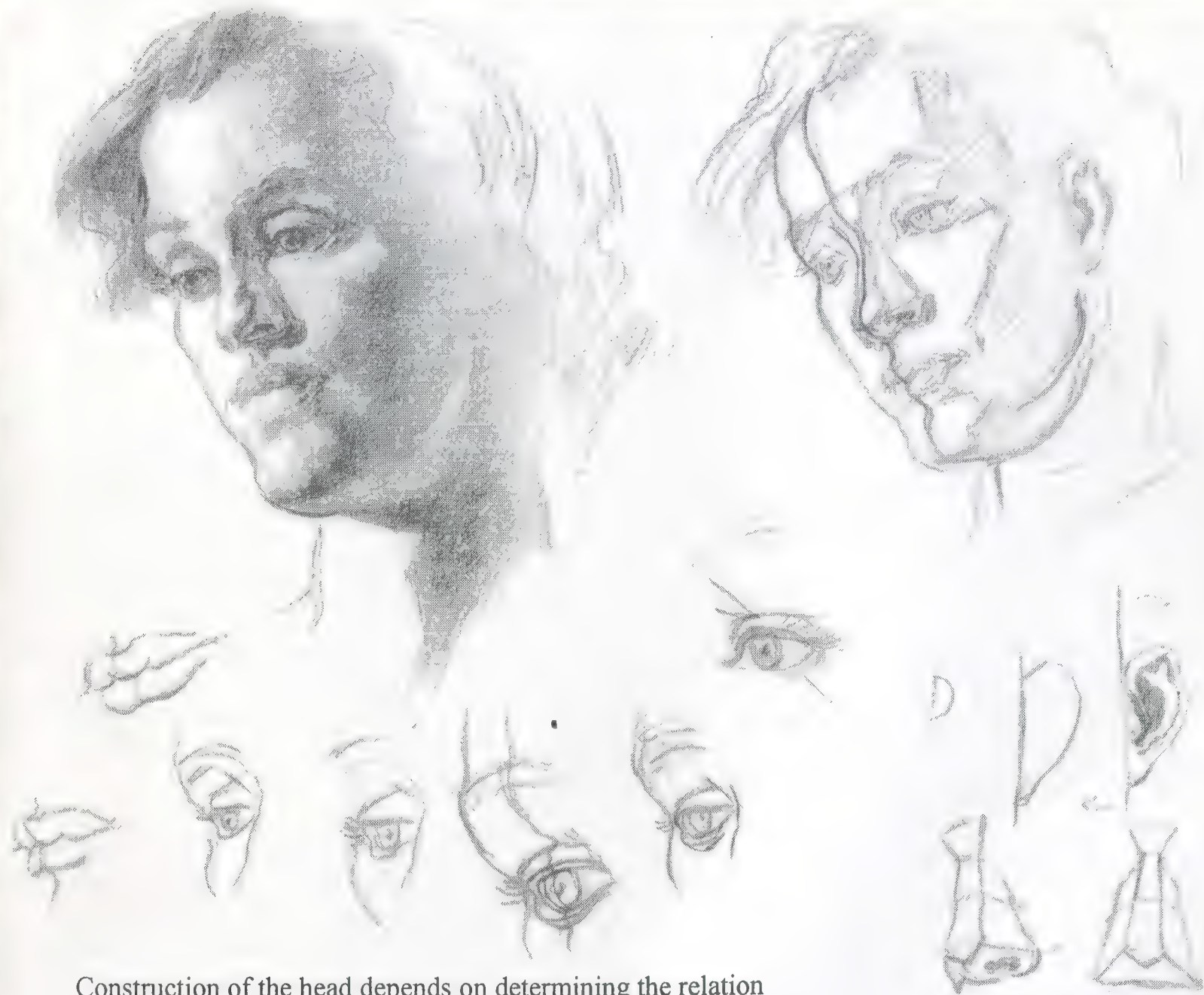
Drawing with a sense of **volume** makes a significant contribution in sorting out the spatial relation of forms before the modeling is introduced. **Cross-contour lines** address this factor directly, contributing a **sculptural sense** to a line drawing.

The overview of the figure in drawing seeks **coherence** in the **relation** of the parts to the whole. It often happens that a single line – sometimes referred to as the **line of action** – links everything to one rhythmic line. This line often has the character of segments of a greater curved line which **counter each other** from the contour of one side **crossing obliquely** to the opposite contour. This relation may be seen in the construction of the arms and legs, as well as throughout the entire figure.





Constructing a head acknowledges the planes of the head in a sculptural sense with a strong, studied **bilateral relation** of the planes. It is recommended that studies from masterworks (painting, sculpture, drawing) be made **since the authority of construction will be self-evident** and the essential lessons will be there for study in every example chosen.



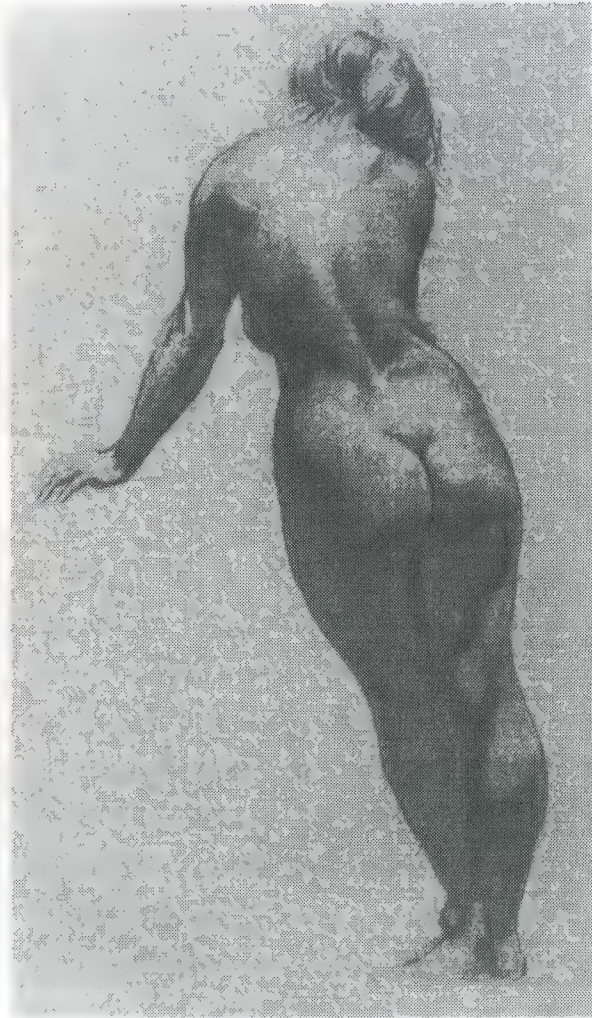
Construction of the head depends on determining the relation of the parts to each other by **constant comparison**, particularly since the head is constructed **bilaterally**. That is, since the skull altogether and the features are set in this bilateral relation, it is **necessary** to develop the drawing of the head with **constant comparison side to side**, and by using the important **reference of the median line**.



Constructing a head, particularly in a foreshortened position, requires attention to the **size relationship** of face to cranium. Certain landmarks of the skull are useful in determining sizes – such as the brow ridge in this example - by which **proportionate construction** of the head is achieved. The critical suggestion here is to utilize obvious **anatomical landmarks** in constructing the drawing and to remain vigilant in adjusting and refining the relation of the parts to each other.

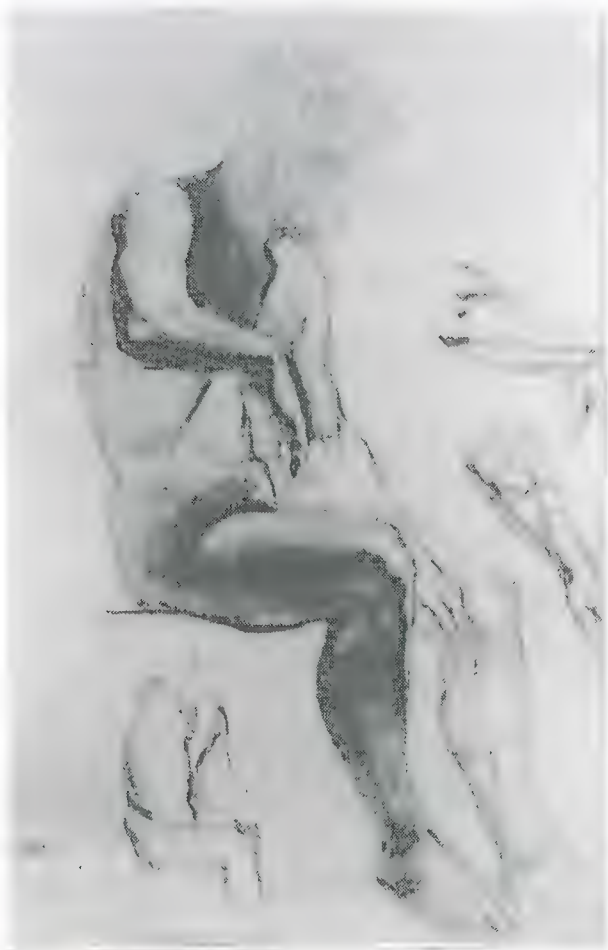
These and other lessons may be learned by studying and learning from works by **masters**, **making copies in museums from originals** which are richly informed in the principles of drawing which we seek.





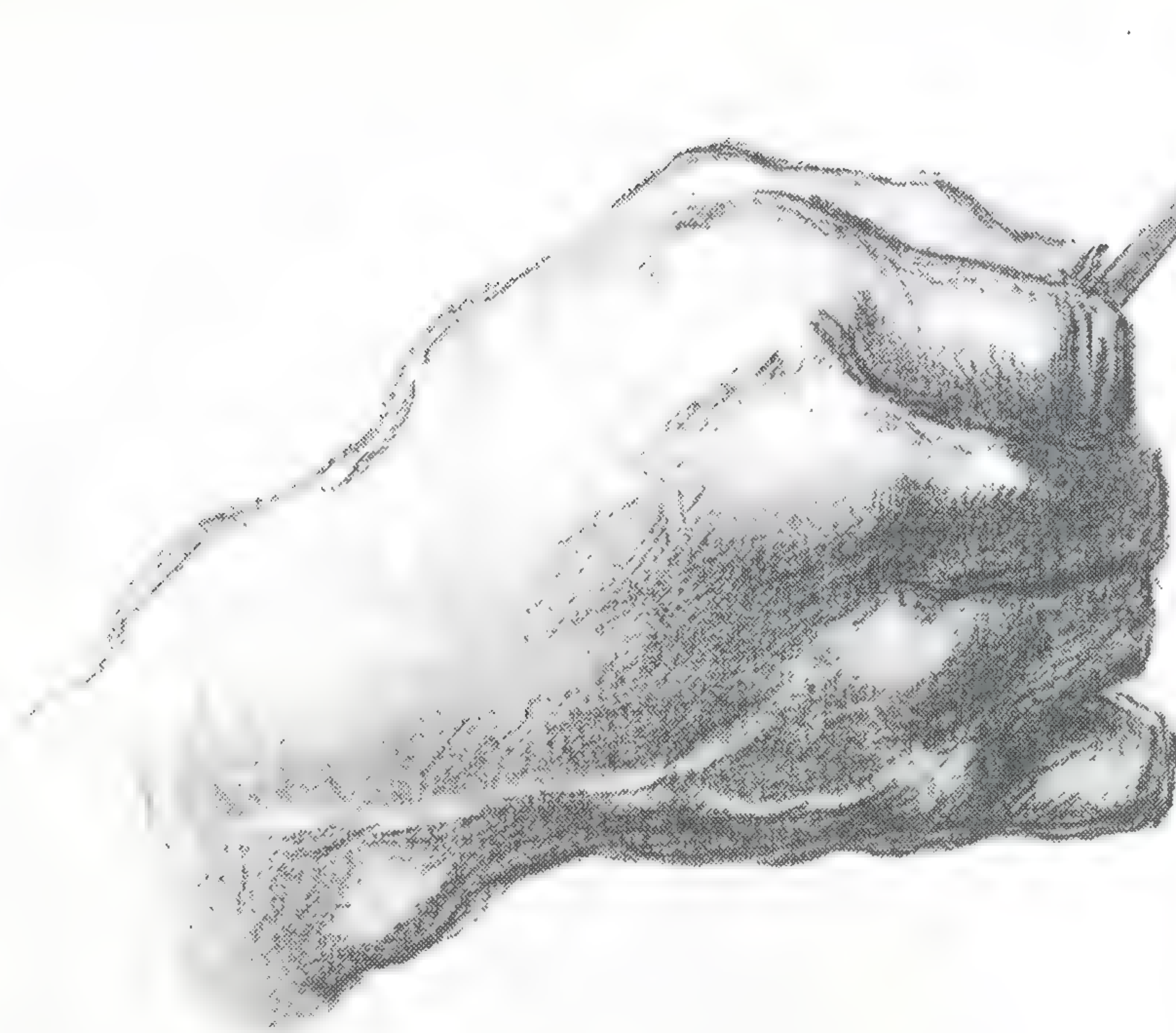
Recognize and remain responsive to all contributing factors with some sense of priority in the process. To this point some **strategies** have been suggested:

- Draw with the **overview of action and lengths of the figure very much in mind**
- Draw **lightly and with abbreviation of detail**
- Look always for the larger relationships **and for some harmony, rhythm**, as one looks to the nature of the **connection of the parts and of these parts to the whole**
- Remain open in this process to determine what goes well, what goes poorly, **and what to do about it**. This manual makes some recommendations about **appraisal and revisions** in drawing from life.
- Remember that drawings do not develop always in some strict accordance to rules, or always in the same way. Experience reveals that some ideas work better than others for a draftsman and that some of these ideas and strategies are offered here just as all sorts of tools may be found in a tool box; **they are there to use when they are needed.**





**V. STRATEGIES FOR QUALITY:
APPRAISAL AND REVISIONS**



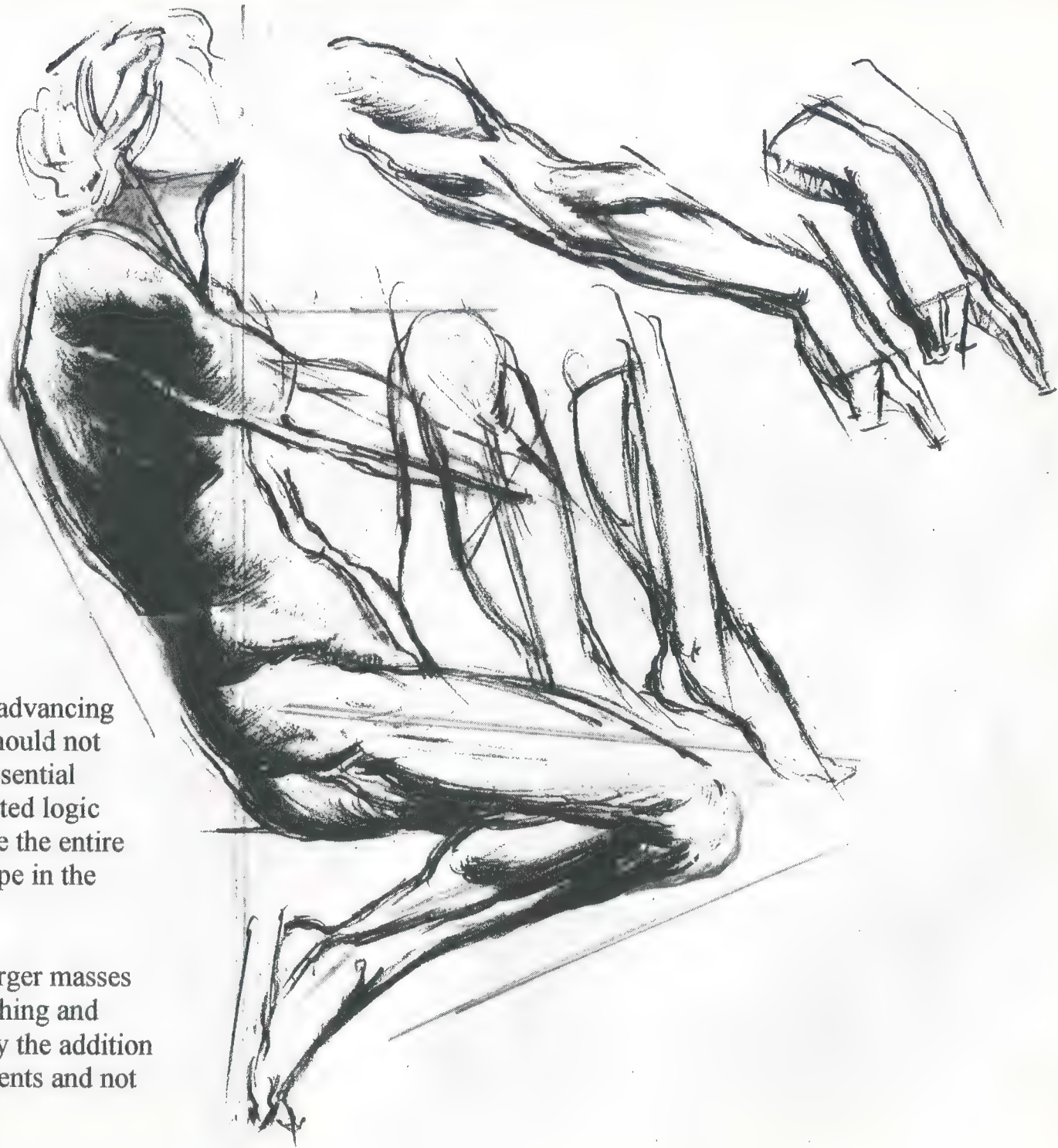
With the arm **fully extended** a draftsman may estimate **by comparison** the relationships of position of the larger, important masses (head, torso, legs) throughout the figure. In this example the position of the head is such that it relates **on a vertical line of comparison** to the knee.

It is important to remember to set one's easel at some distance from the model **in order to see the figure in its entirety** and **to draw with the arm fully extended in order to see the drawing in its entirety**. Comparisons of this sort are made **and then appraised from a distance, stepping back from one's drawing.**



The growing complexity in advancing and developing a drawing should not divert reference to its few essential lines of axis, of the abbreviated logic of the action. In this example the entire figure reduces to an "L" shape in the relation of torso to leg.

This simple relation of its larger masses is the **framework** for everything and should only be **supported** by the addition of further detail and refinements and not confused by them.



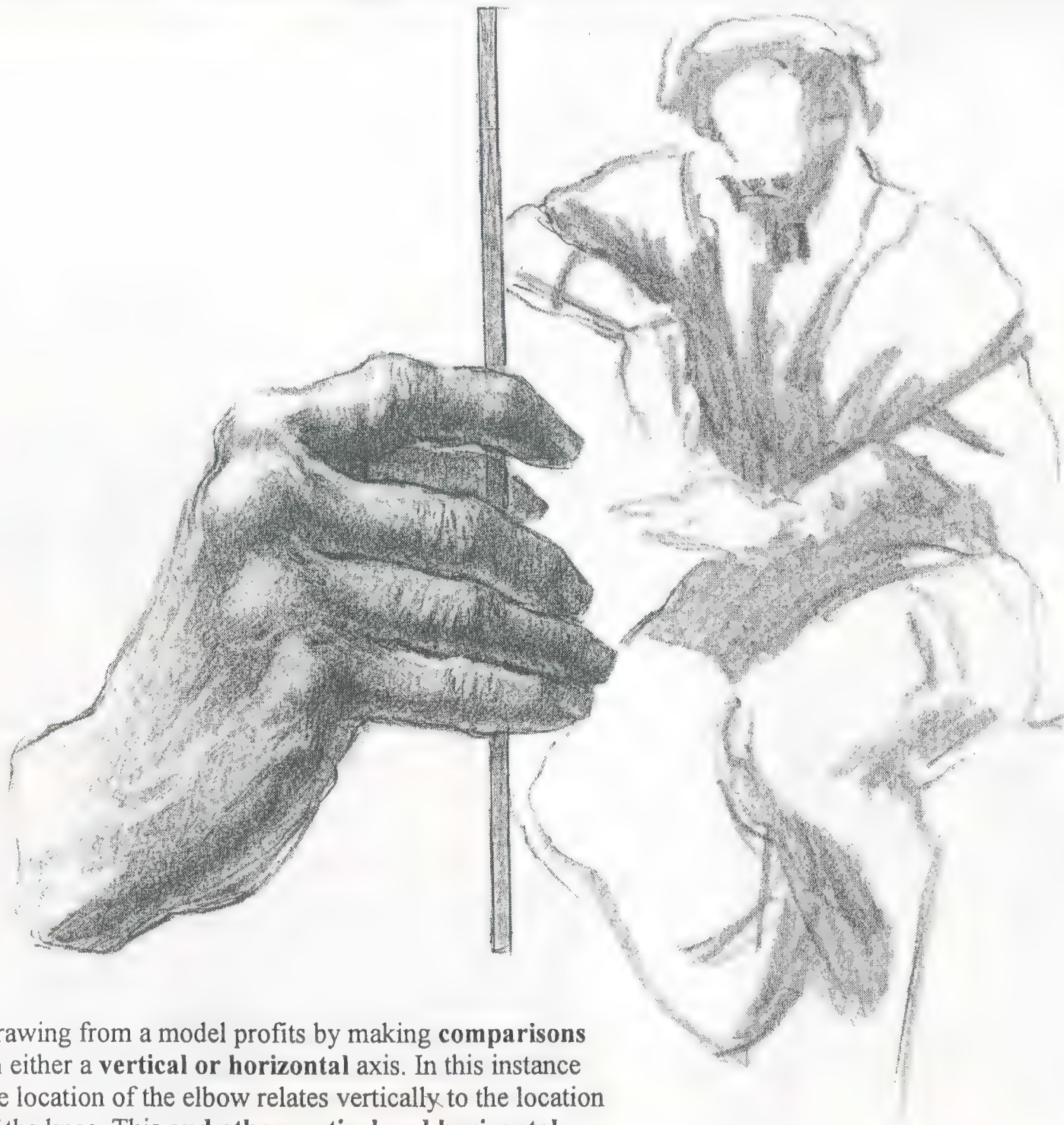
Comparisons of position, of the relation of masses to each other, are made once the freehand drawing has been started, brought to an early but coherent stage of development, and has been adjusted according to **visual appraisal** of its quality in relation to the model. **Measuring**, as it is sometimes called, is used in support of drawing

The **vertical comparisons** made in these two examples relate certain **landmarks** to each other in accordance with their location as seen on the **model**. Such comparisons are made by extending the arm fully and holding the straight edge in vertical position while looking past the stick at the model. The **relation of parts to each other** is brought back to the **drawing**, usually suggesting some revision.





Comparisons of position are introduced as soon as a drawing displays some coherent overview. Appraisal of this sort is very useful but only when the **freehand drawing of the overview has been done**. Measuring, as it is sometimes called, is introduced **in support of drawing**. Comparisons of this sort are extremely useful **but drawing comes first**.

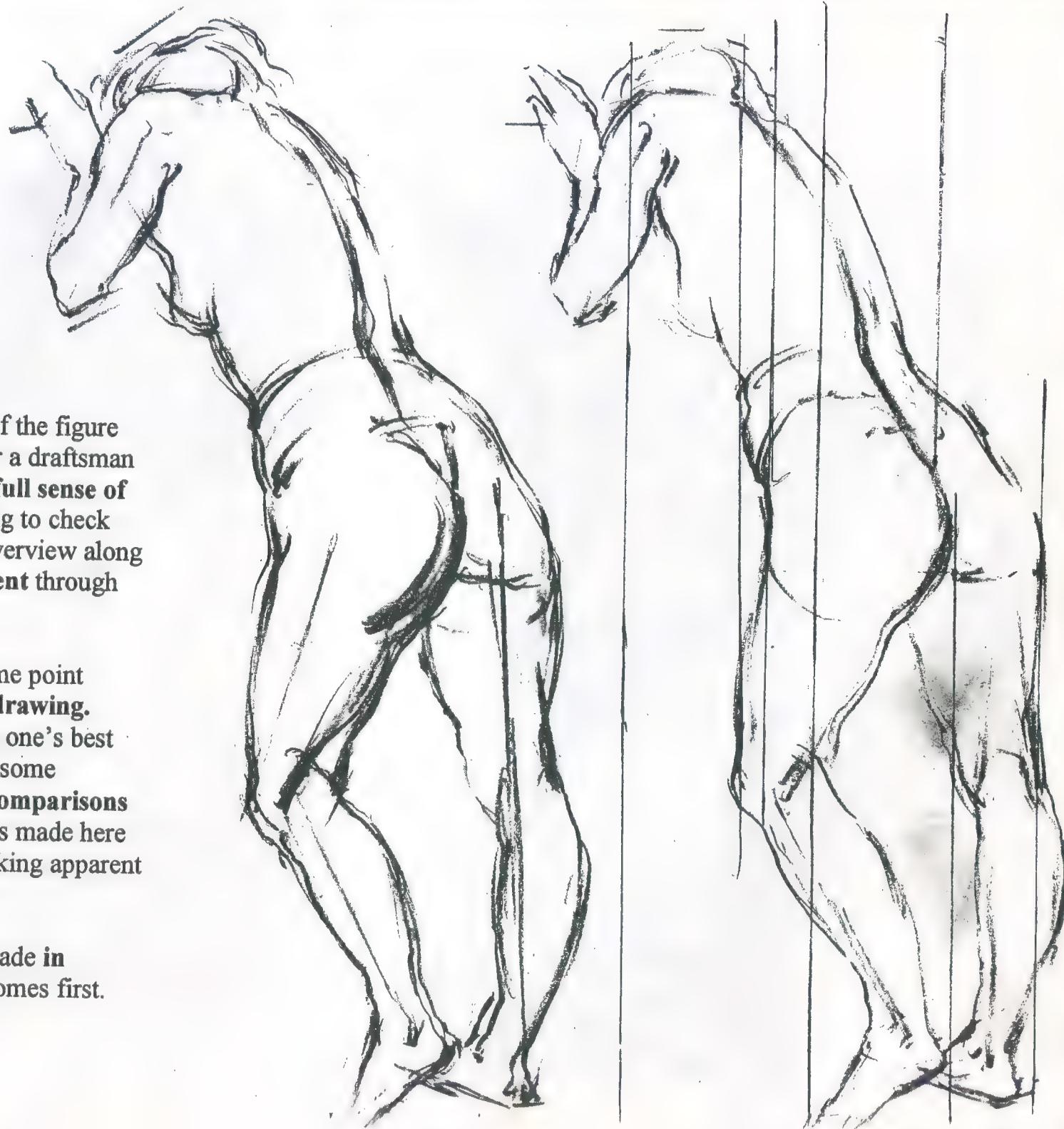


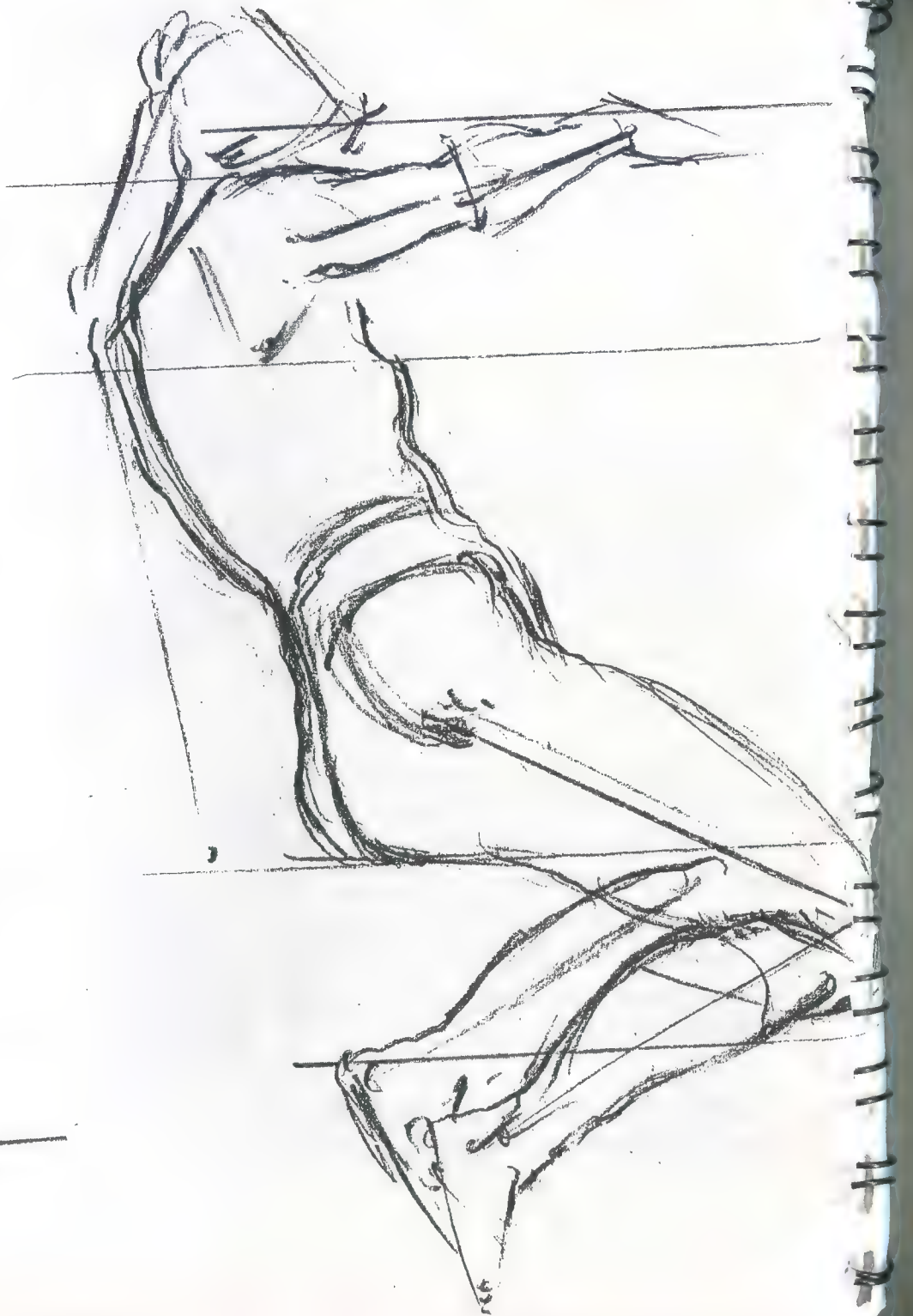
Drawing from a model profits by making **comparisons** on either a **vertical or horizontal** axis. In this instance the location of the elbow relates vertically to the location of the knee. This **and other vertical and horizontal comparisons** certify a drawing's accuracy in a general sense.

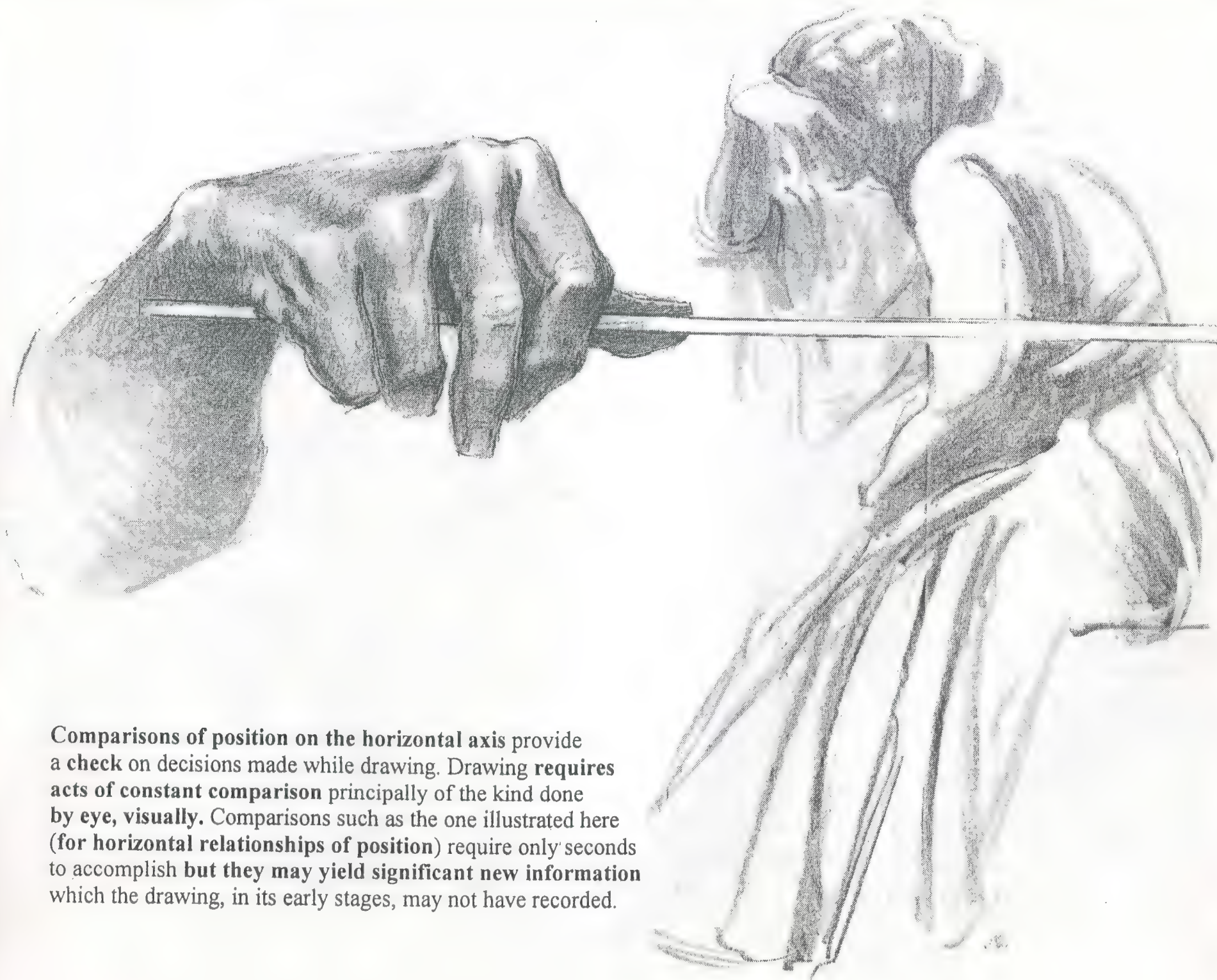
Accounting for the **overview** of the figure is the first order of business for a draftsman and it implies drawing **with a full sense of the priority of things**. Stopping to check every decision obstructs this overview along with the **coherence of movement** through the figure.

Lines of **comparison** are at some point introduced and **drawn on the drawing**. Once the drawing, representing one's best responsive efforts, has reached some early but coherent stage, then **comparisons** such as the vertical comparisons made here will **inform** the drawing by making apparent any major miscalculations.

Comparisons such as this are made **in support** of drawing; drawing comes first.

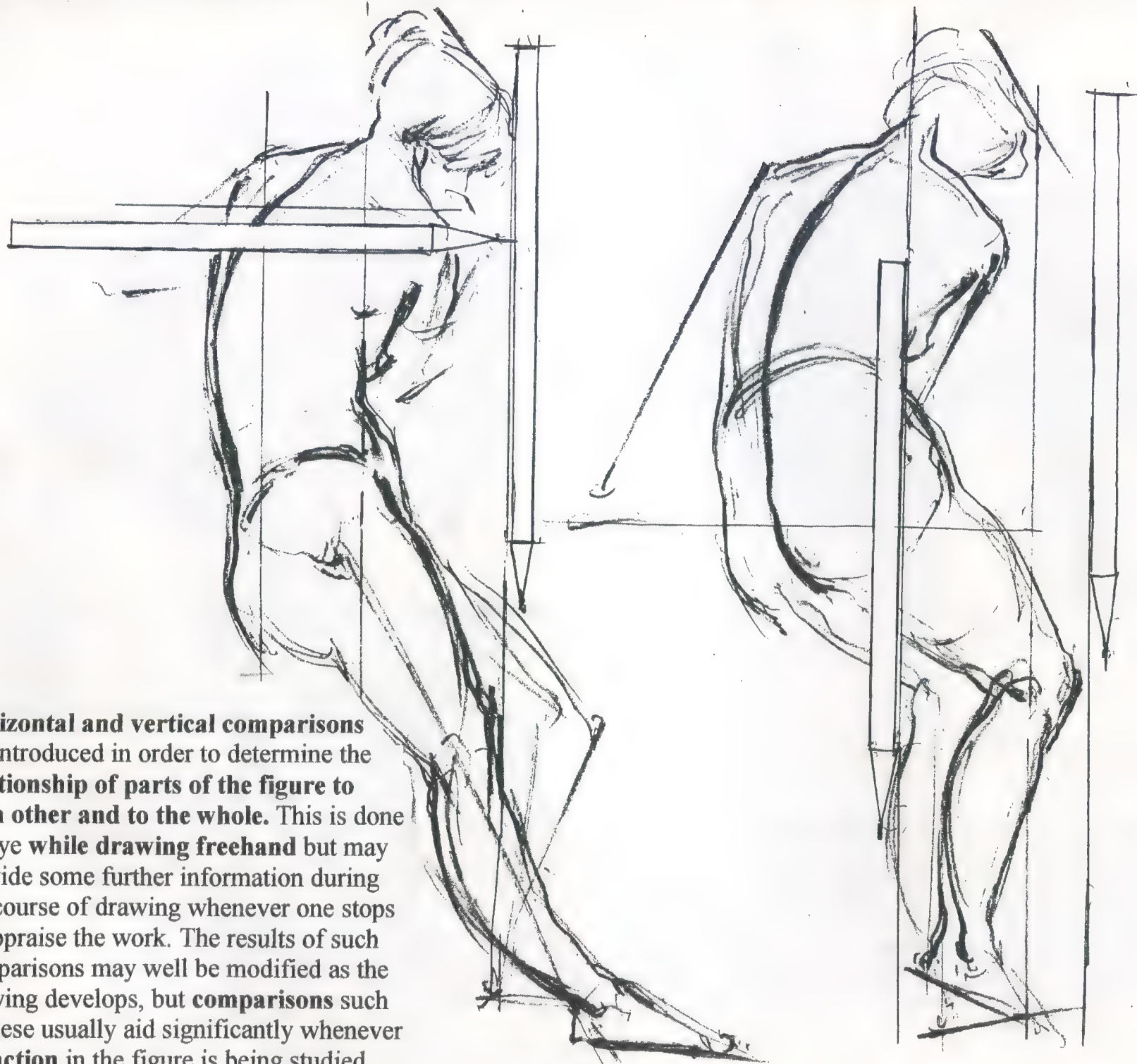


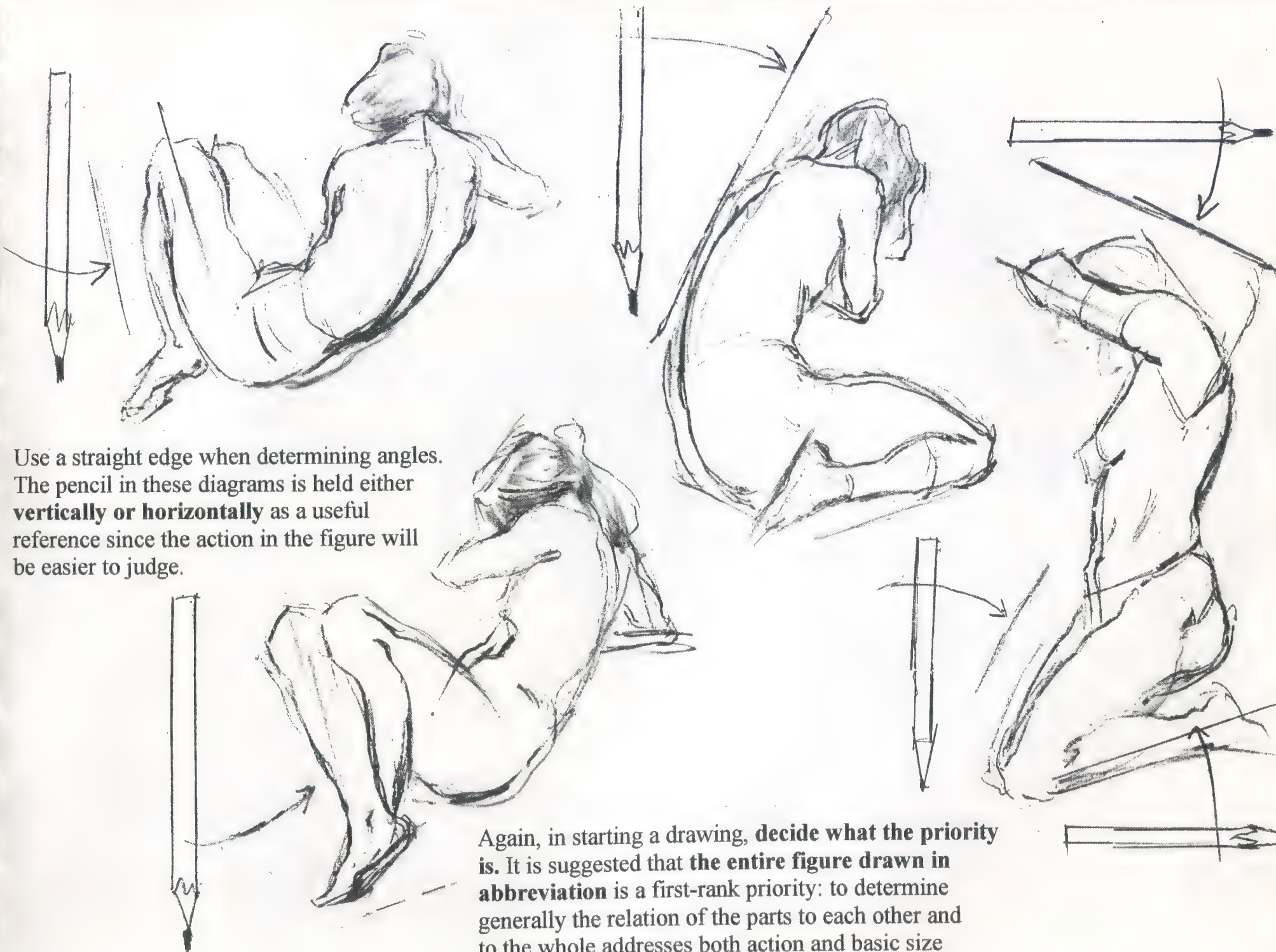




Comparisons of position on the horizontal axis provide a check on decisions made while drawing. Drawing **requires** acts of constant comparison principally of the kind done by eye, visually. Comparisons such as the one illustrated here (for horizontal relationships of position) require only seconds to accomplish but they may yield significant new information which the drawing, in its early stages, may not have recorded.

Horizontal and vertical comparisons are introduced in order to determine the **relationship of parts of the figure to each other and to the whole**. This is done by eye **while drawing freehand** but may provide some further information during the course of drawing whenever one stops to appraise the work. The results of such comparisons may well be modified as the drawing develops, but **comparisons** such as these usually aid significantly whenever the **action** in the figure is being studied.

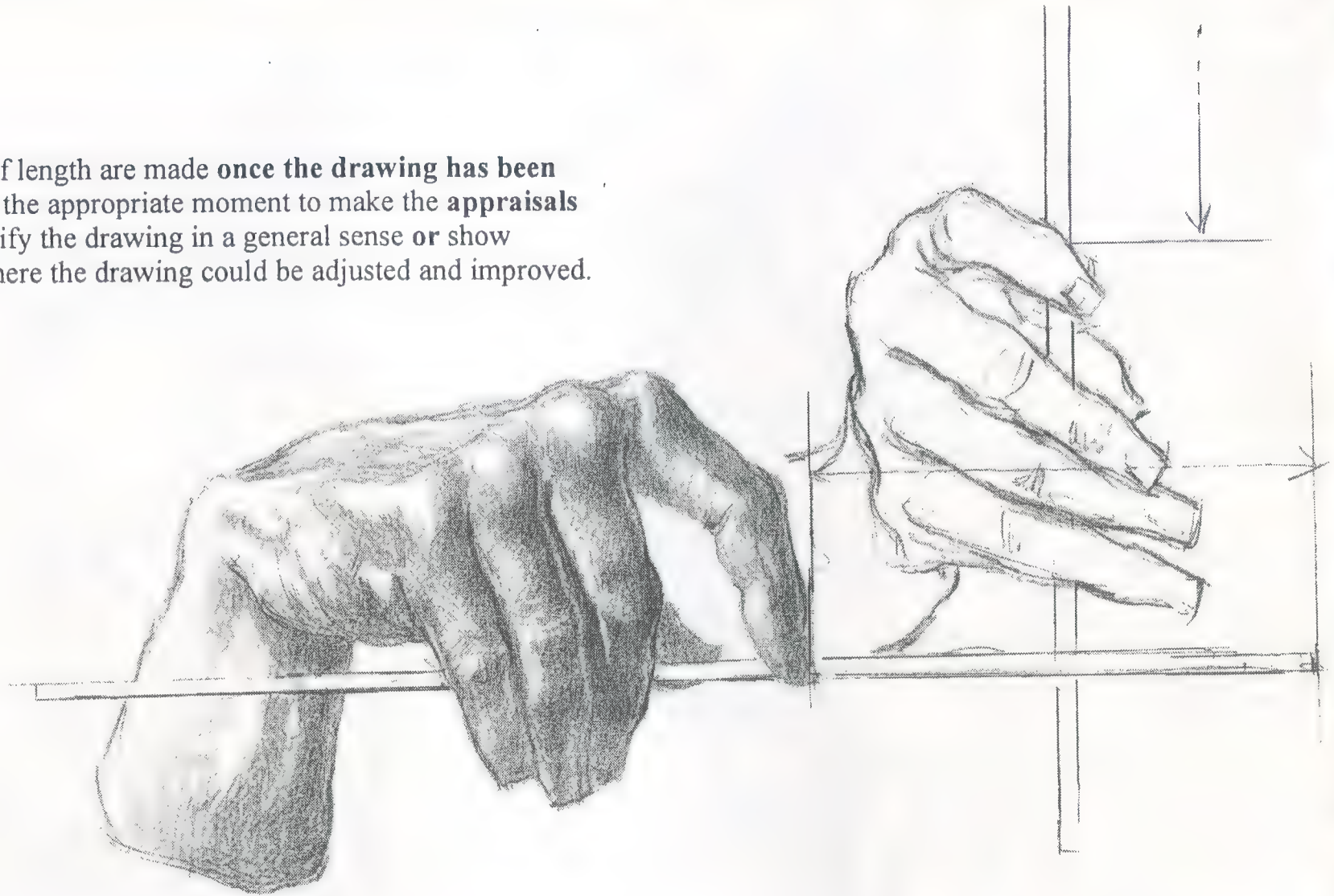




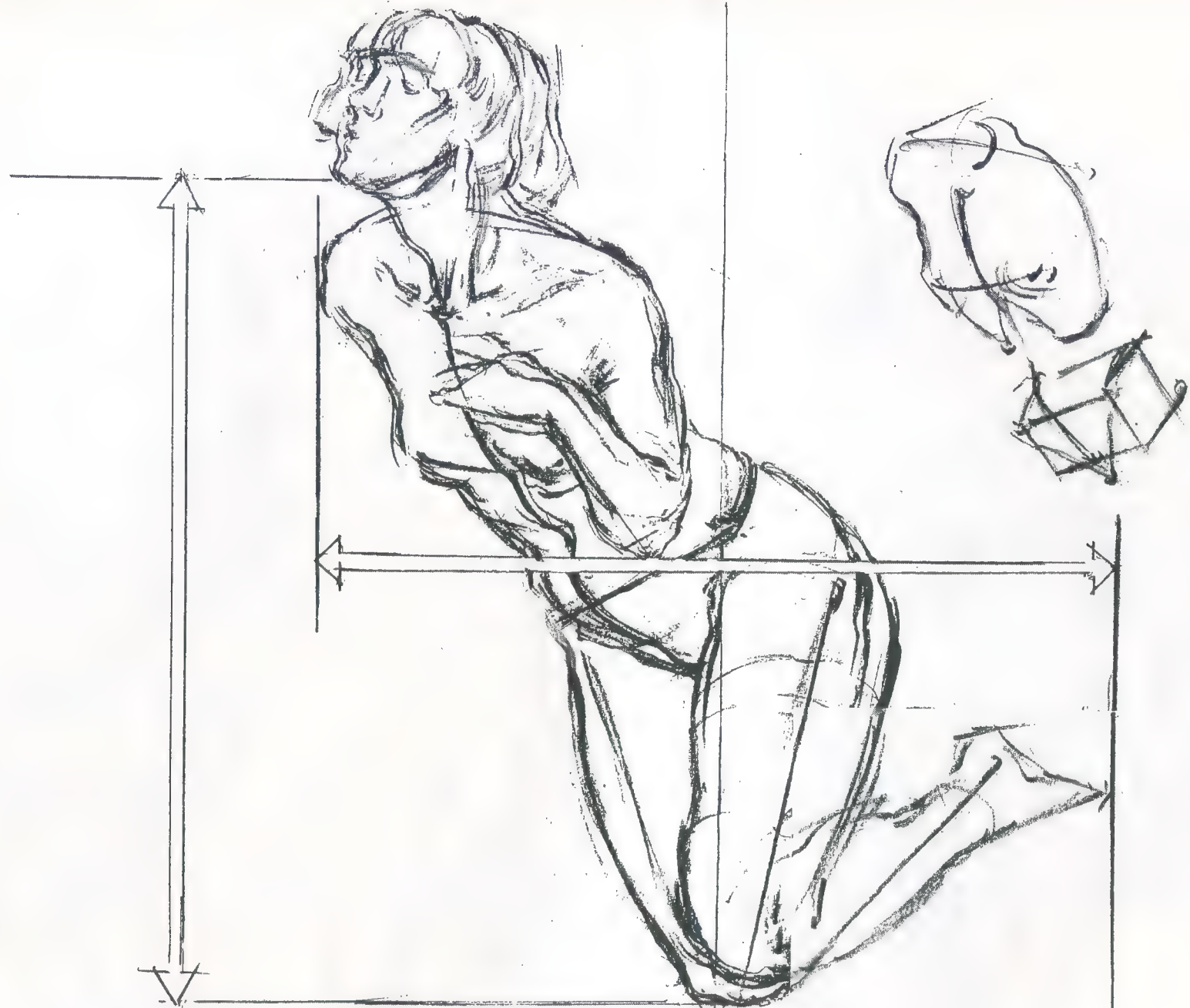
Use a straight edge when determining angles. The pencil in these diagrams is held either **vertically or horizontally** as a useful reference since the action in the figure will be easier to judge.

Again, in starting a drawing, **decide what the priority is**. It is suggested that **the entire figure drawn in abbreviation** is a first-rank priority: to determine generally the relation of the parts to each other and to the whole addresses both action and basic size relationships in the drawing. This is referred to as **the overview**.

Comparisons of length are made **once the drawing has been started**; this is the appropriate moment to make the **appraisals** which will certify the drawing in a general sense **or** show very clearly where the drawing could be adjusted and improved.



Held horizontally, a straight edge can be used to record a relative length by sliding the finger to mark a point. This length – from the finger to the tip of the straight edge – is a length **selected** by holding the straight edge at arm's length and looking past it at the model; a **comparison of width to height or width to width** is made in this way and by **comparisons** of this sort the proportions of the figure may be obtained.



In constructing any figure drawing it is reasonable to note the relation of total width to height, or by some set of comparisons **to relate directly the sum-total dimensions which inscribe the figure.** In this example the width from shoulder to foot (converted to a horizontal length) is equal to the distance from the knee as the lowest point to the chin (converted to a vertical line of comparison).

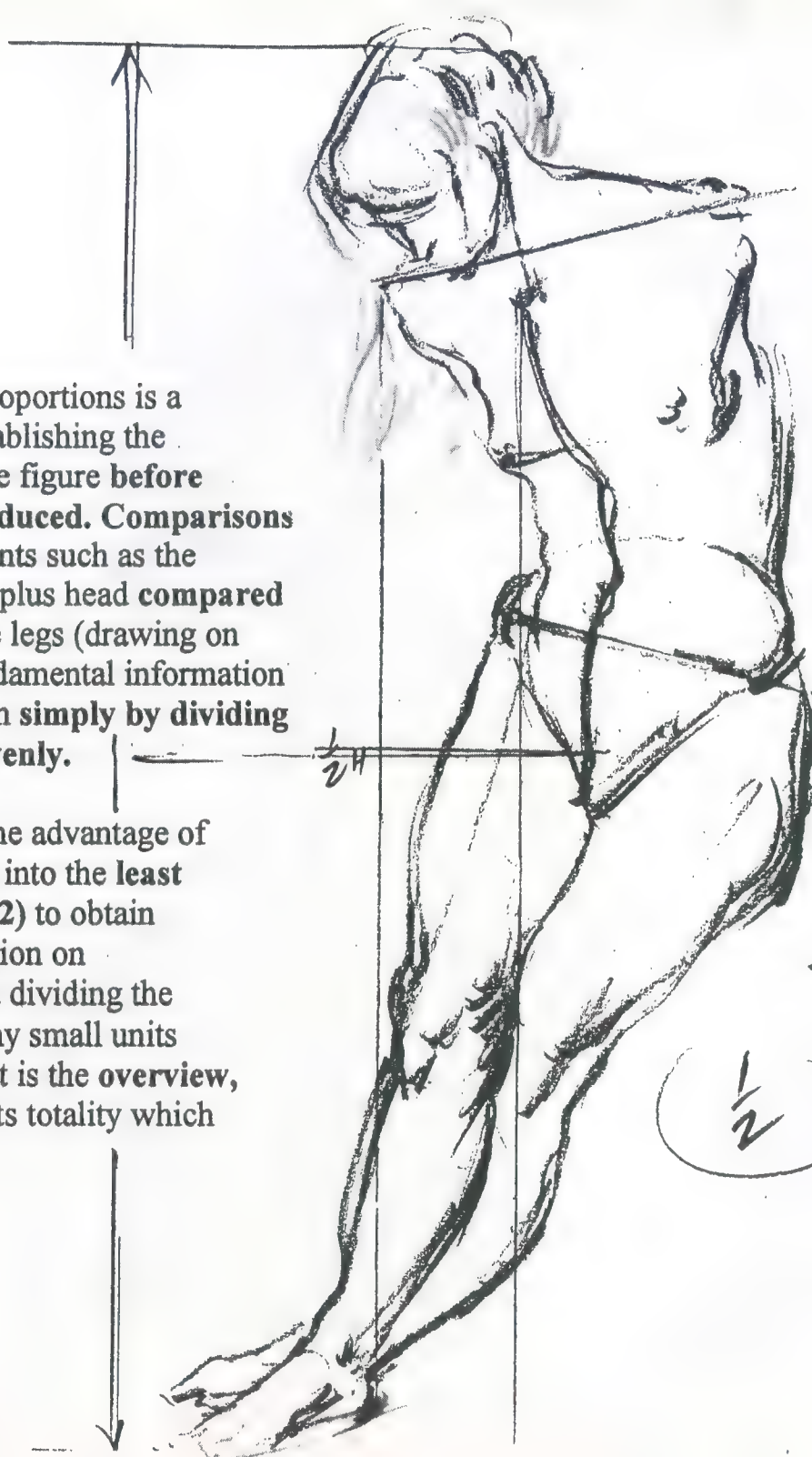
It is important to discover the relation of the larger parts (length of torso, length of legs, etc.) to each other, to **compare the parts of greater length or width to each other than to divide the whole into too many smaller parts**, or to use too small a unit of proportion in setting the **overview**. First comparisons should be large in scope just as the priority in freehand drawing is the **overview in a general sense**.

This recommendation has nothing to do with any rule of proportion; it is a recommendation and suggestion as to how to **discover relationships of proportion**.



Control of basic proportions is a major factor in establishing the **construction** of the figure before any detail is introduced. Comparisons of the larger elements such as the length of the torso plus head **compared** to the length of the legs (drawing on the left) offers fundamental information in abbreviated form **simply by dividing the total height evenly.**

This strategy has the advantage of dividing the figure into the **least number of parts (2)** to obtain important information on proportions. Avoid dividing the figure into too many small units particularly when it is the **overview**, the figure seen in its totality which is sought.

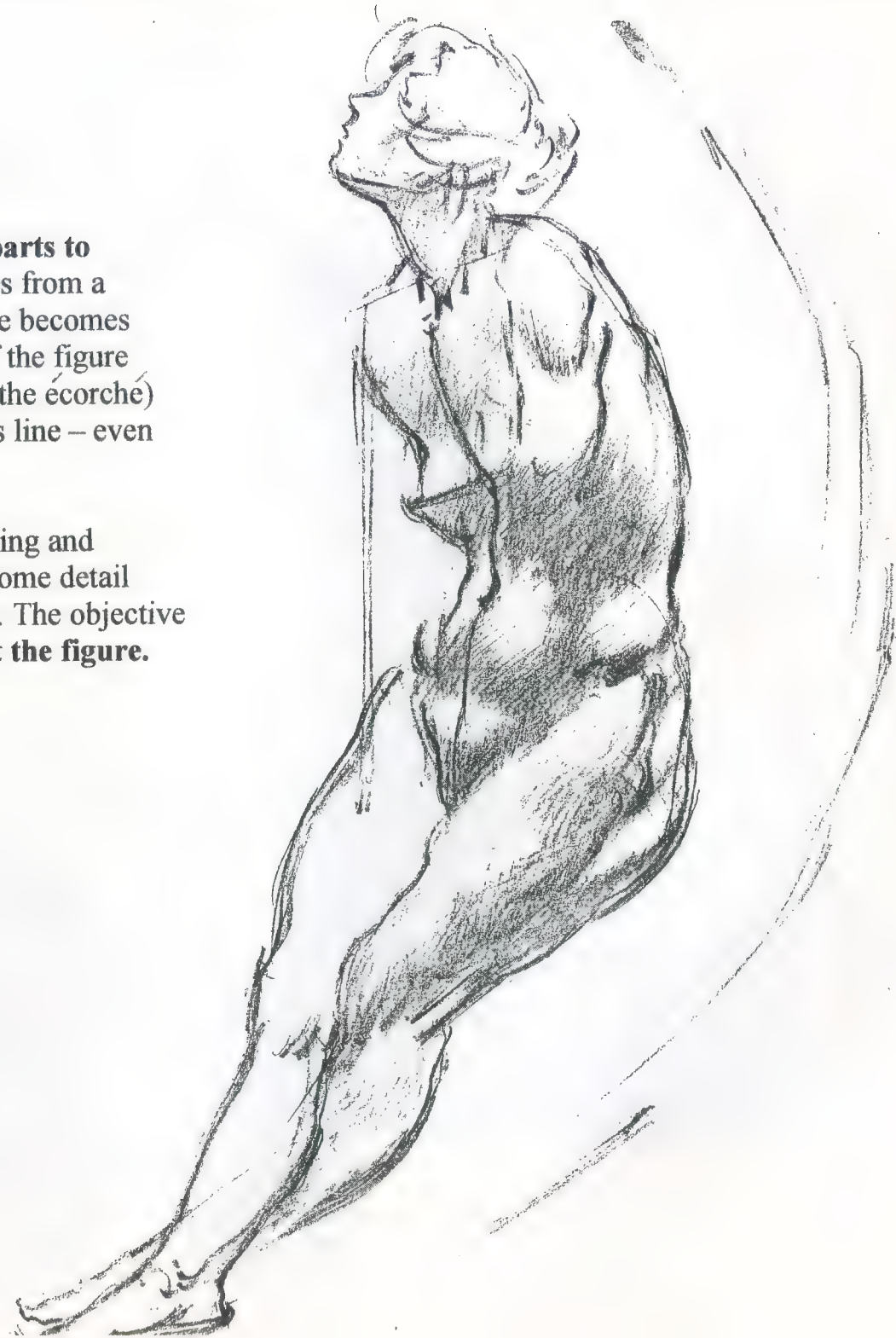




10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100

The **harmony** evident in the **relation of parts to each other and to the whole** often derives from a single **curvilinear line of action**. This line becomes clear only when studying the **overview** of the figure first. The structural anatomy of the parts (the *écorché*) will usually exhibit some repetition of this line – even to many of the smaller muscle groups.

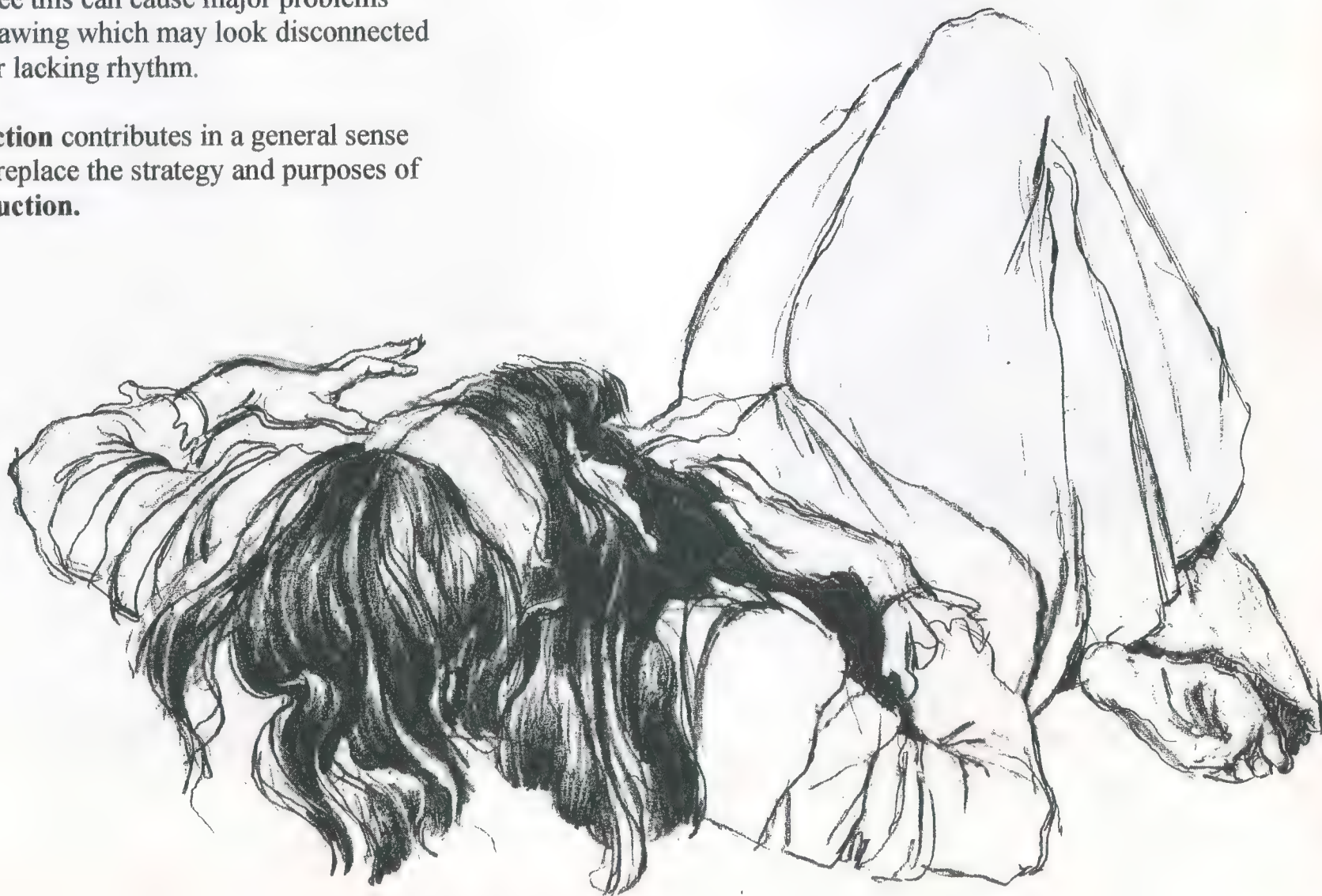
This observation is very useful in identifying and developing the **anatomical sequence** in some detail since it seeks the interrelation of the parts. The objective is to present some **coherence throughout the figure**.





Much can be accomplished by identifying the **line of action** – a strategy in drawing set forth by Thomas Eakins – as part of a draftsman's first **overview** of the drawing. The **line of action** has the advantage of linking the parts to one fluent whole and to offer a single directional line for the rhythm of the drawing. Rhythm is defined as the nature of the connection of the parts; not to see this can cause major problems in the final drawing which may look disconnected and jarring, or lacking rhythm.

The **line of action** contributes in a general sense and does not replace the strategy and purposes of **figure construction**.





Rhythm in figure drawing refers to **the nature of the connection of the parts.** In these examples the issues of action and size relationships have reached a certain stage of resolution. Just as attention is now given to rhythmic contours of the limbs, so too must the **drawing in its entirety** be scanned for whatever contribution rhythm may make.



oblique
contour,
alternating



convex contours

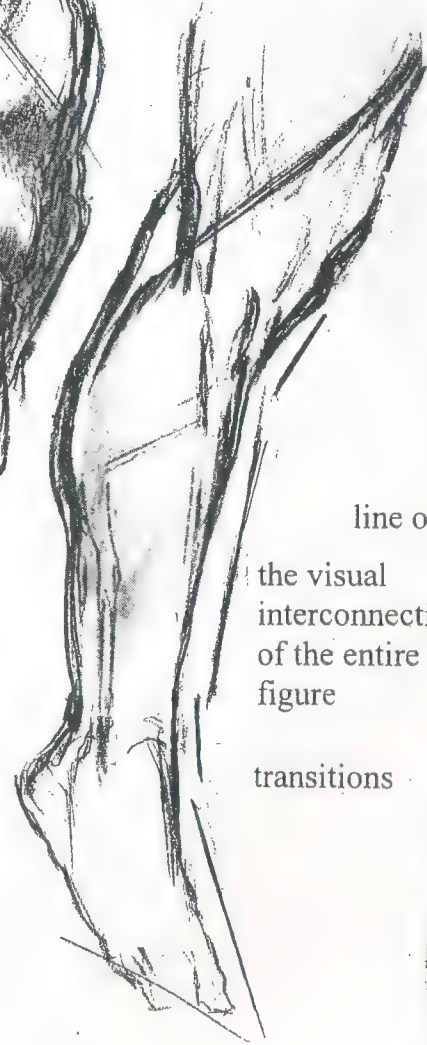
convergence of
forms



parallel rhythm



fluency of
transitions



implied line



line of action

the visual
interconnection
of the entire
figure

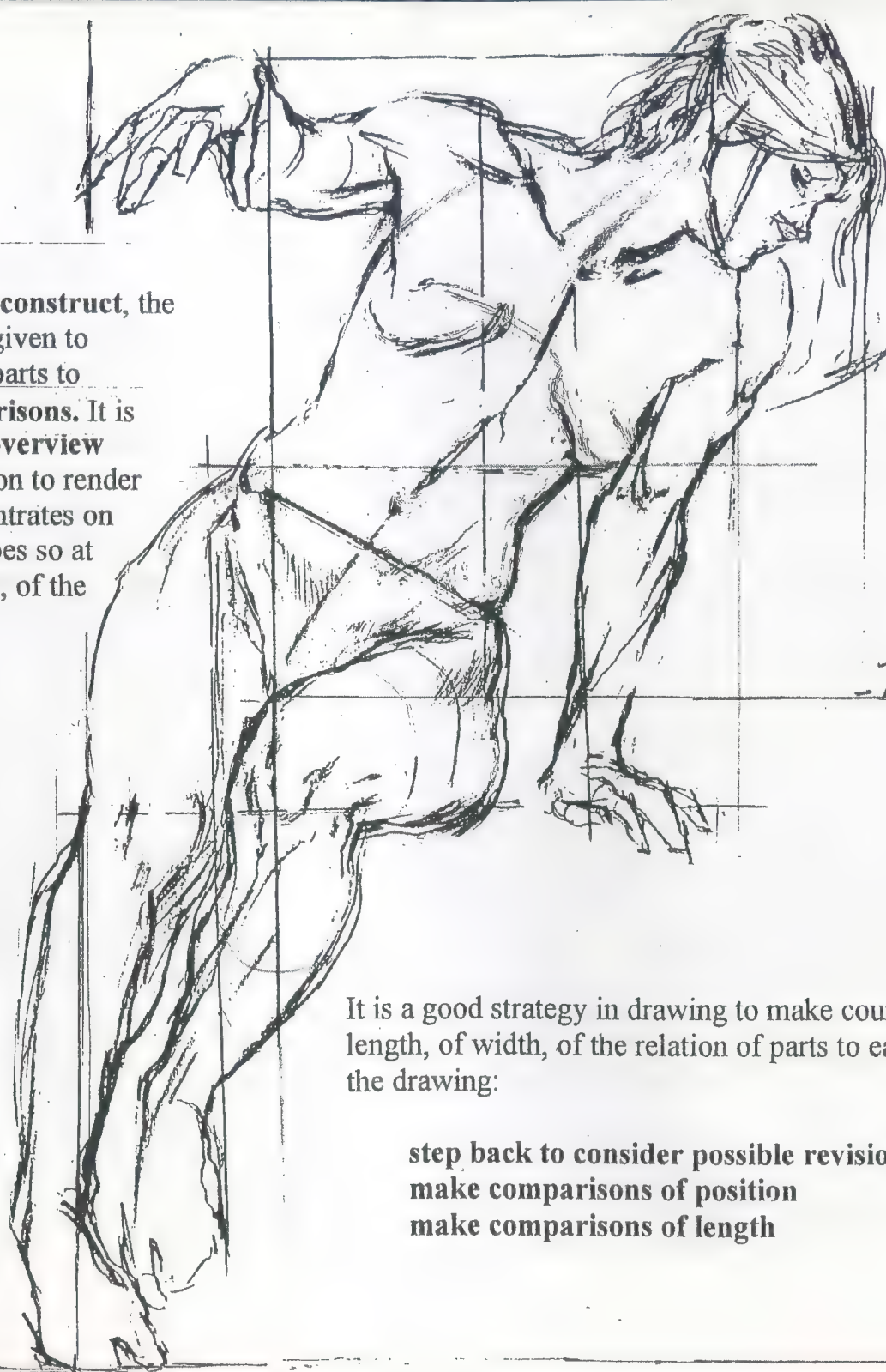
transitions

Linear rhythm in drawing is defined in a general sense as **the nature of the connection of the parts**. Illustrated here are some of the strategies which support **linear rhythm** in drawing. These are frequently observed situations encountered in drawing from life; most are **correspondences** in the relation of contours or **implied linear connection**:

- convergence of forms
- convex contours
- oblique alternation
- transitions
- implied line
- line of action
- variety

- straight – curved
- long – short
- dark – light
- thick – thin

The **priority** is to set up, to **construct**, the entire figure with attention given to determining the relation of parts to each other through comparisons. It is important to keep after the **overview** while resisting any temptation to render one detail. When one concentrates on one piece, one detail, one does so at the expense of the **overview**, of the overall conception.



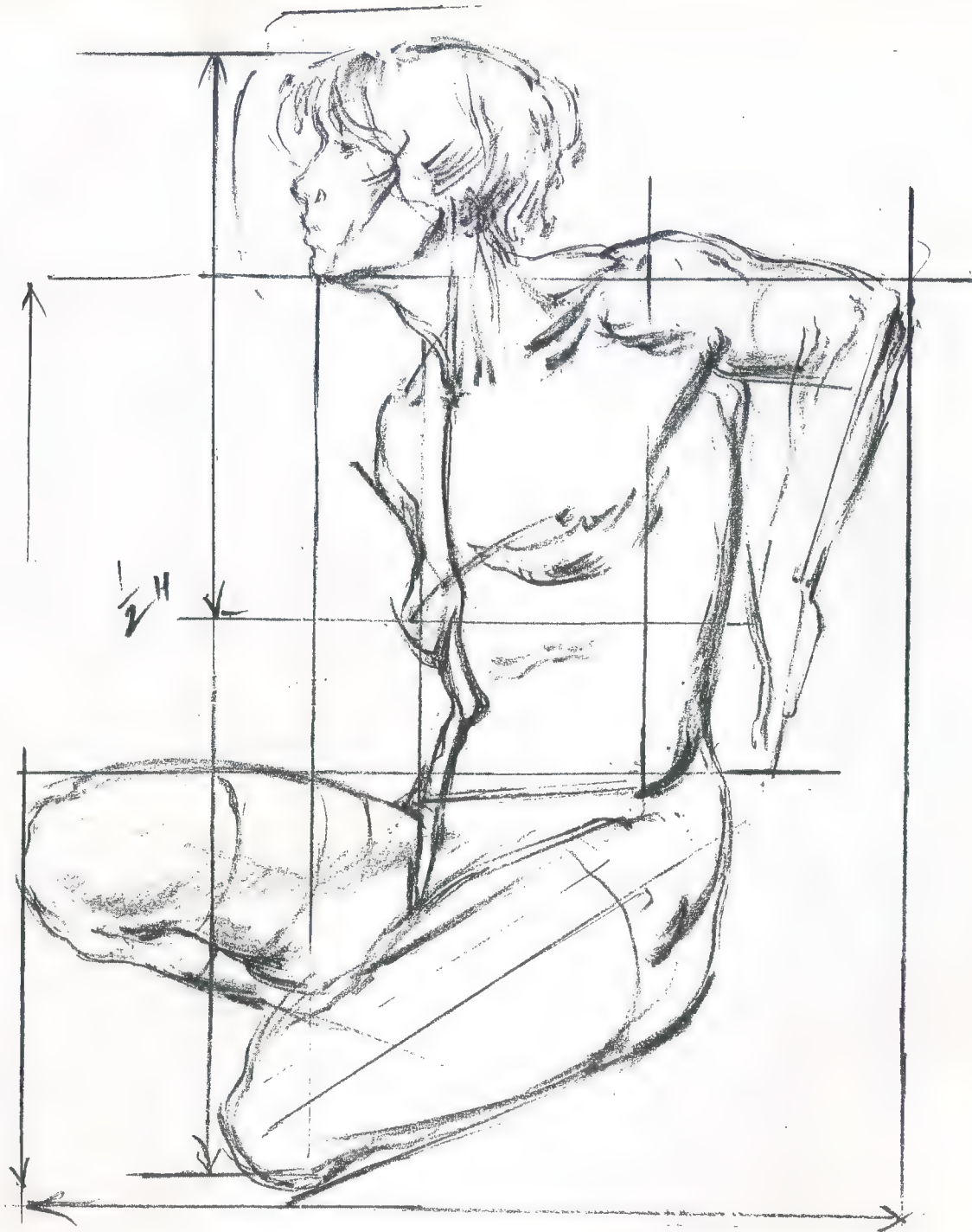
It is a good strategy in drawing to make countless comparisons: of length, of width, of the relation of parts to each other throughout the drawing:

step back to consider possible revisions
make comparisons of position
make comparisons of length

Freehand drawing is supported by **construction lines** and by **comparisons** which contribute refinements of **action, relation, proportion, and articulation.**

Both **appraisal and revision(s)** of the drawing make direct use of the **construction lines** illustrated here. While the contribution of construction lines and comparisons illustrated here is significant, **freehand drawing must come first.**

Comparisons, measuring, and adjustments of the action of the figure and the proportions are always useful but are always in support of freehand drawing.





VI. ANATOMICAL STRUCTURE

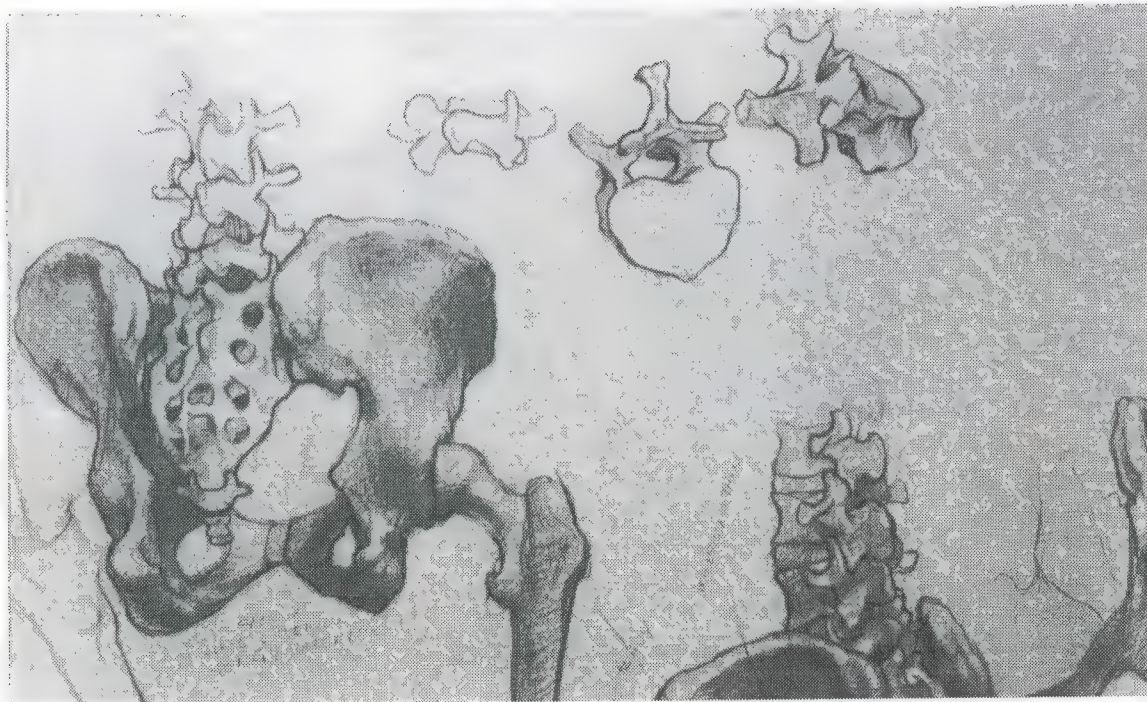


Articulation, from the Latin, artus, joint, refers to joint systems, the plan of bone meeting and moving against bone. The term implies a **plan of action** at the joint systems and the **movement** which results as tendons cross the joints, insert at specific sites, and are pulled harness-like by muscle.

The design for mobility and strength in the hand is impressive and complex. Antagonist muscle groups **flex** and **extend**, **abduct** and **adduct**, depending on the arrangement and shape of **articular surfaces**.

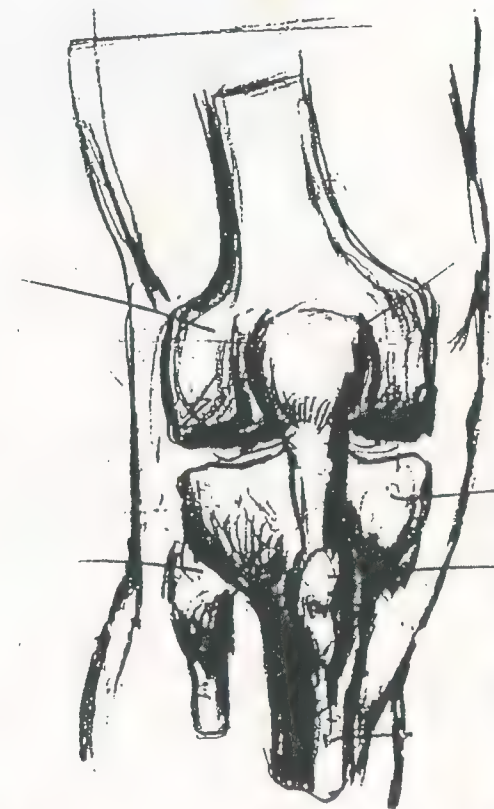
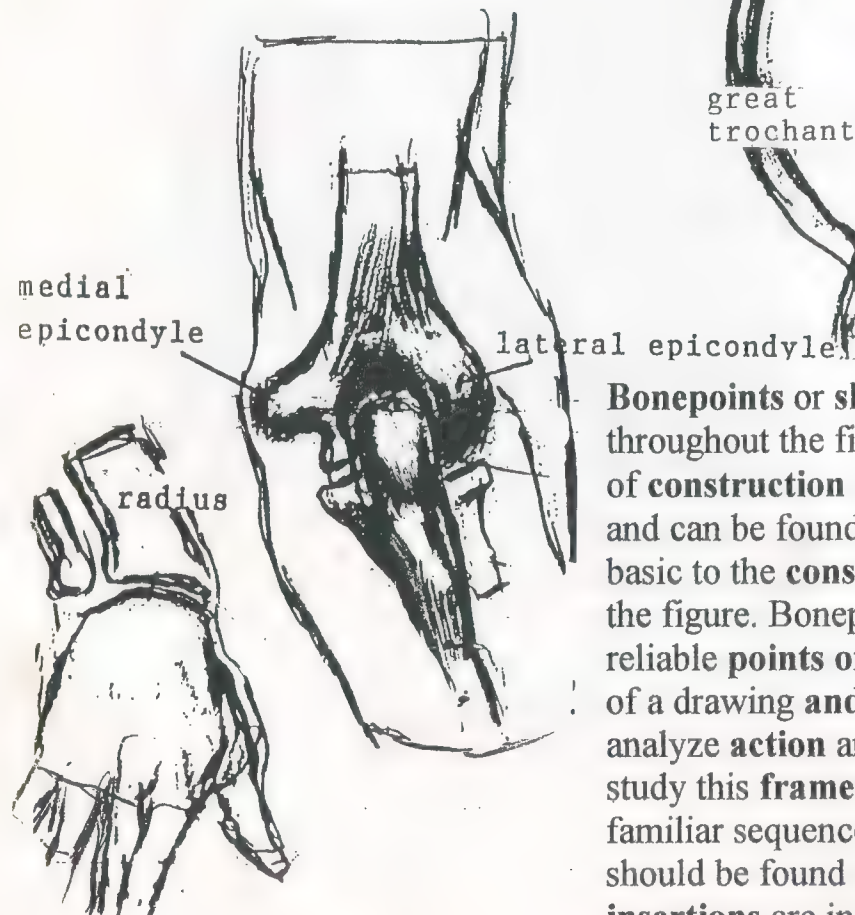
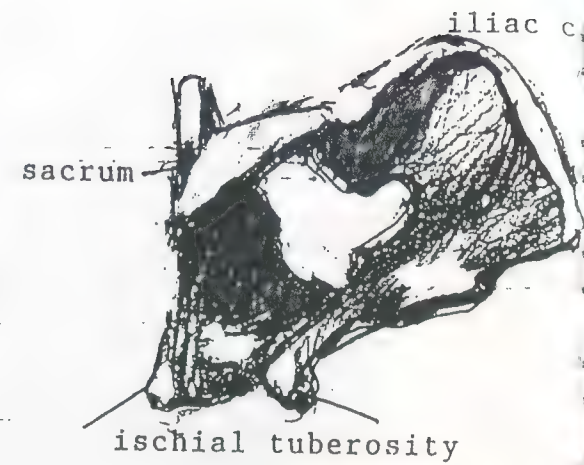
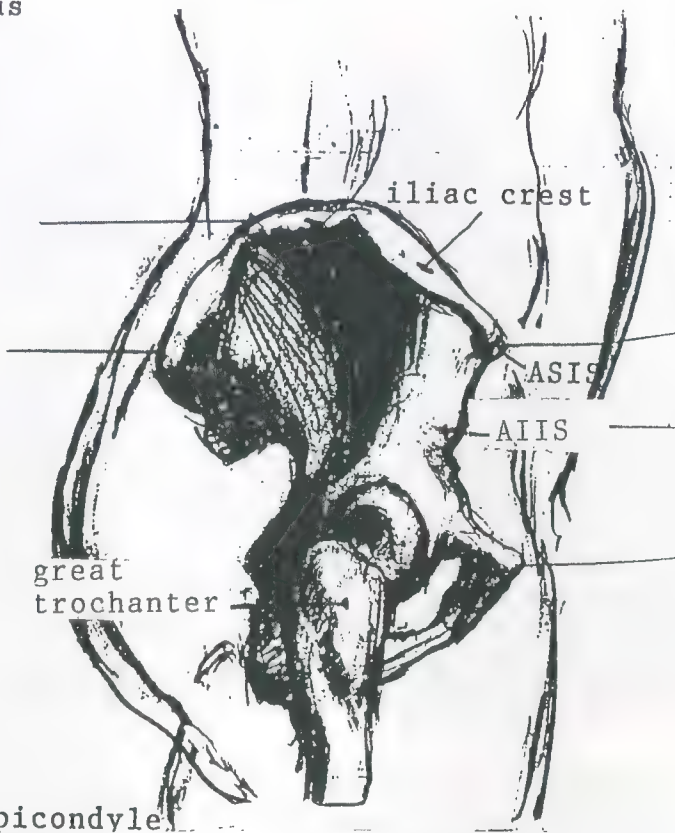
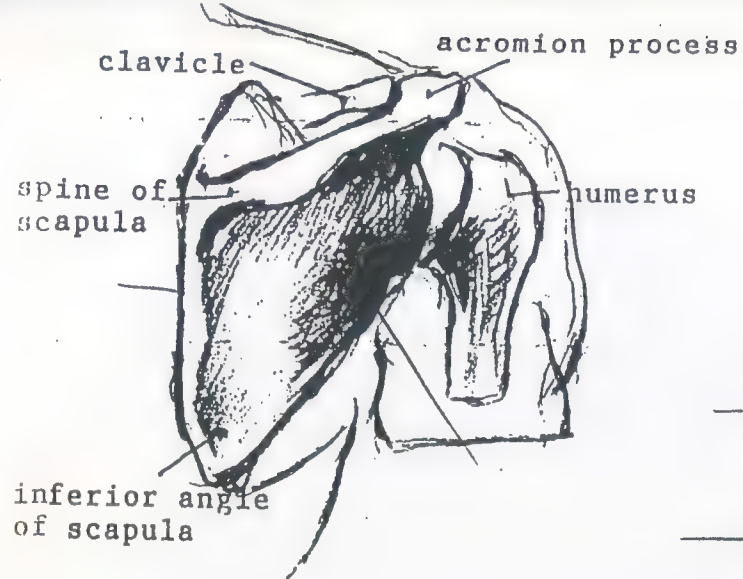
The range of motion of the hand implies a complex set of articular surfaces, and for the draftsman presents the opportunity to search for **anatomical landmarks** indicative of function.

Understanding some of the anatomical construction informs a figure drawing everywhere and orders a draftsman's conception of the figure.



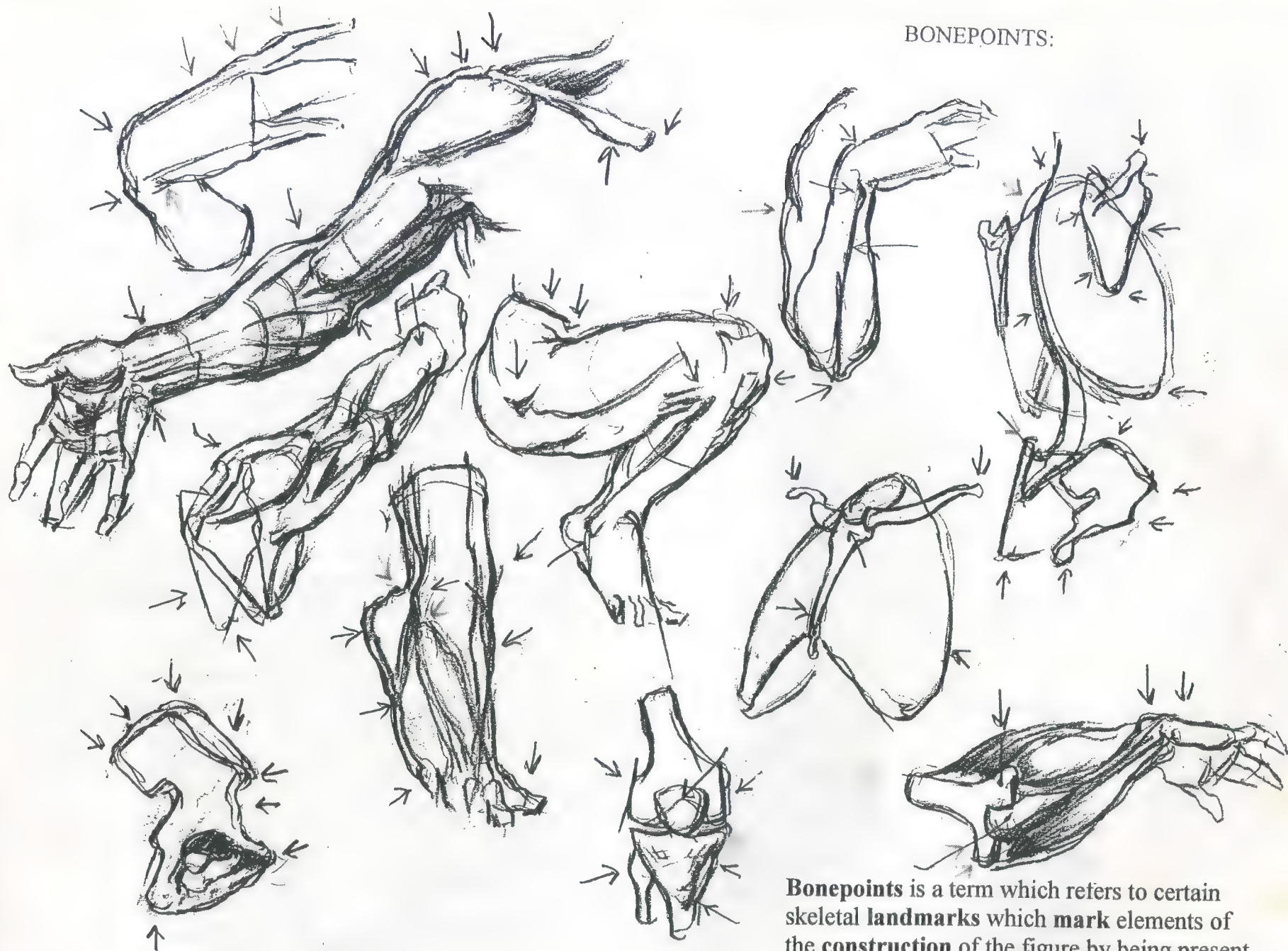
Drawing the skeleton is recommended since a draftsman seeks understanding – joint systems, bonepoints, origin and insertion sites, shapes, function, etc.

Drawings of this sort **target certain areas** in order to study a limited area more fully. Drawing offers a legitimate pathway for **understanding**; better understanding of **figure structure** further **informs** a figure drawing **beyond** what light and shade alone may reveal. A draftsman will add significantly to his familiarity with **figure construction** through **drawing** since graphic translation of structure puts new information into immediately available form.



Bonepoints or skeletal landmarks are found throughout the figure. They offer secure points of **construction** since they are usually visible and can be found and used. Such landmarks are basic to the **construction** and **framework** of the figure. Bonepoints offer sufficient and reliable **points of comparison** in the construction of a drawing and enable a draftsman to better analyze **action** and **articulation**. In an écorché study this **framework** revealed through the familiar sequence of **landmarks** and **bonepoints** should be found in order that muscle **origins** and **insertions** are interpreted clearly.

BONEPOINTS:



Bonepoints is a term which refers to certain skeletal landmarks which mark elements of the construction of the figure by being present and visually obvious on the surface. They are useful to know and use since they are useful guides in the construction process.

Cranium

Acromion Process

7th Cervical Vertebra

Scapula

Spine

Rib Cage

External Oblique

Iliac Crest

Trochanter

Sacrum

Ankle

Calcaneous Bone

Planes of Head

Acromion Process

Sternocleidomastoid

Spine of Scapula

Axis of Upper Arm

Olecranon Process

10th Rib and Thoracic Arch

Abdominal Wall

Axis of Upper Leg

Axis of Lower Leg

Biceps Femoris and Fibula

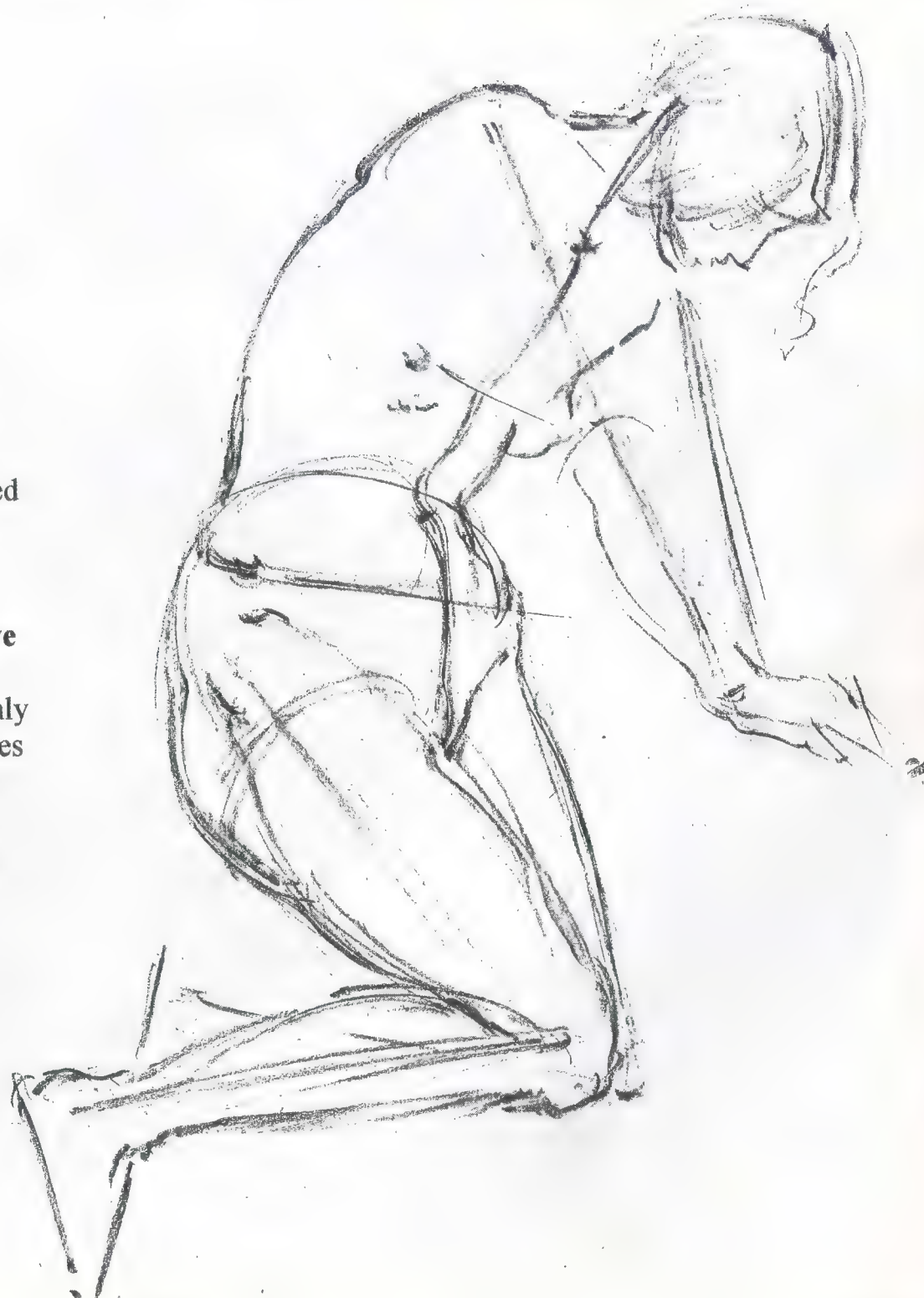
Patella

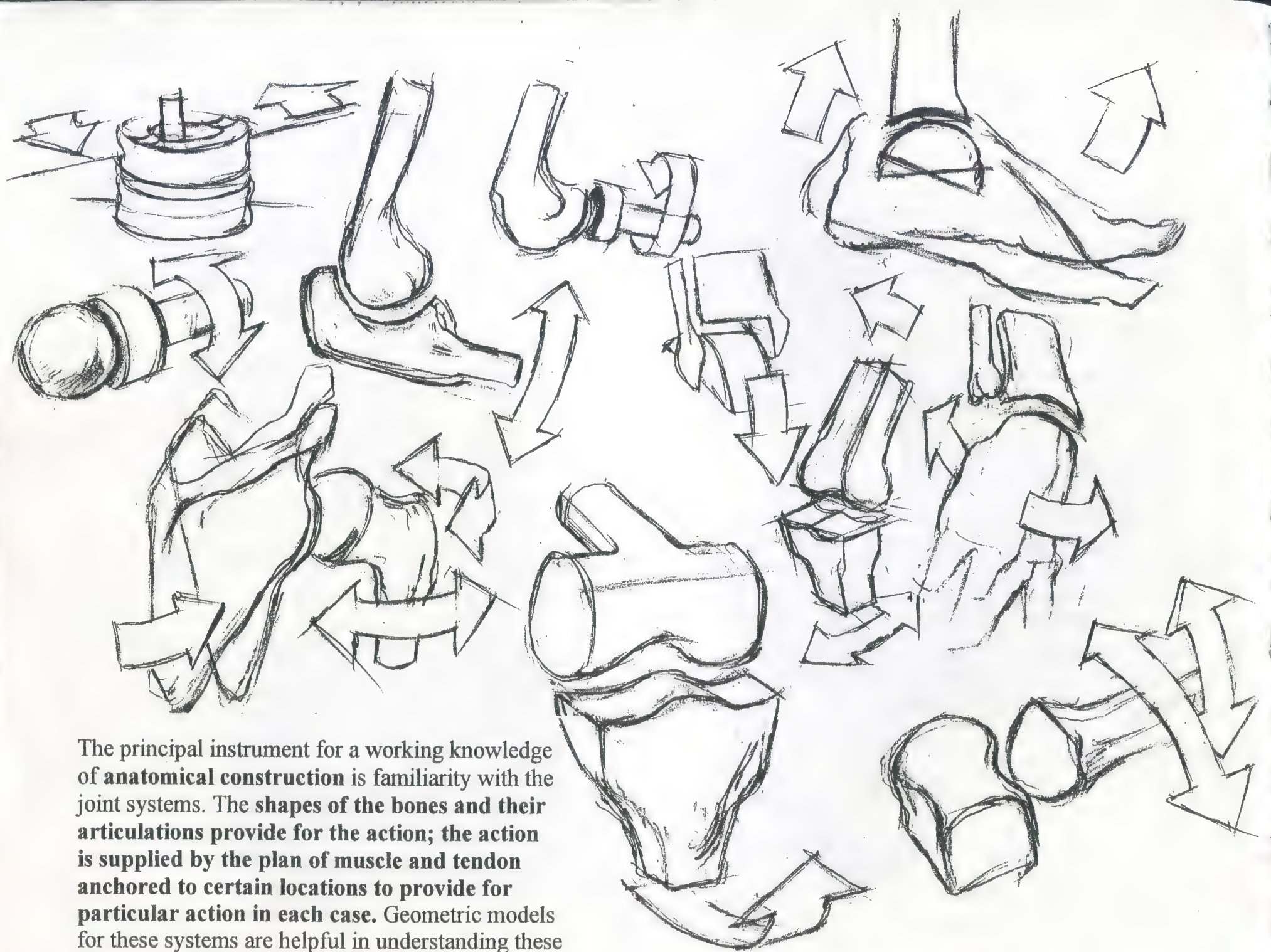
Tibia



Locating and using major **anatomical landmarks** – even while working the initial freehand drawing – is strongly recommended. This strategy **locates and secures landmarks in relation to each other** which is critical in obtaining the **overview**. Additionally, **principal anatomical bonepoints and landmarks are joined to freehand drawing** if only in abbreviated form.

The importance of this strategy is **coherence** in advancing a drawing through stages which **involve some identification of anatomical landmarks from the start**. Revisions and refinements certainly will be introduced, but major anatomical references deserve immediate attention **since they will yield principal points of relation, are so readily identified, and are the prerequisites for strong figure construction** in drawing.





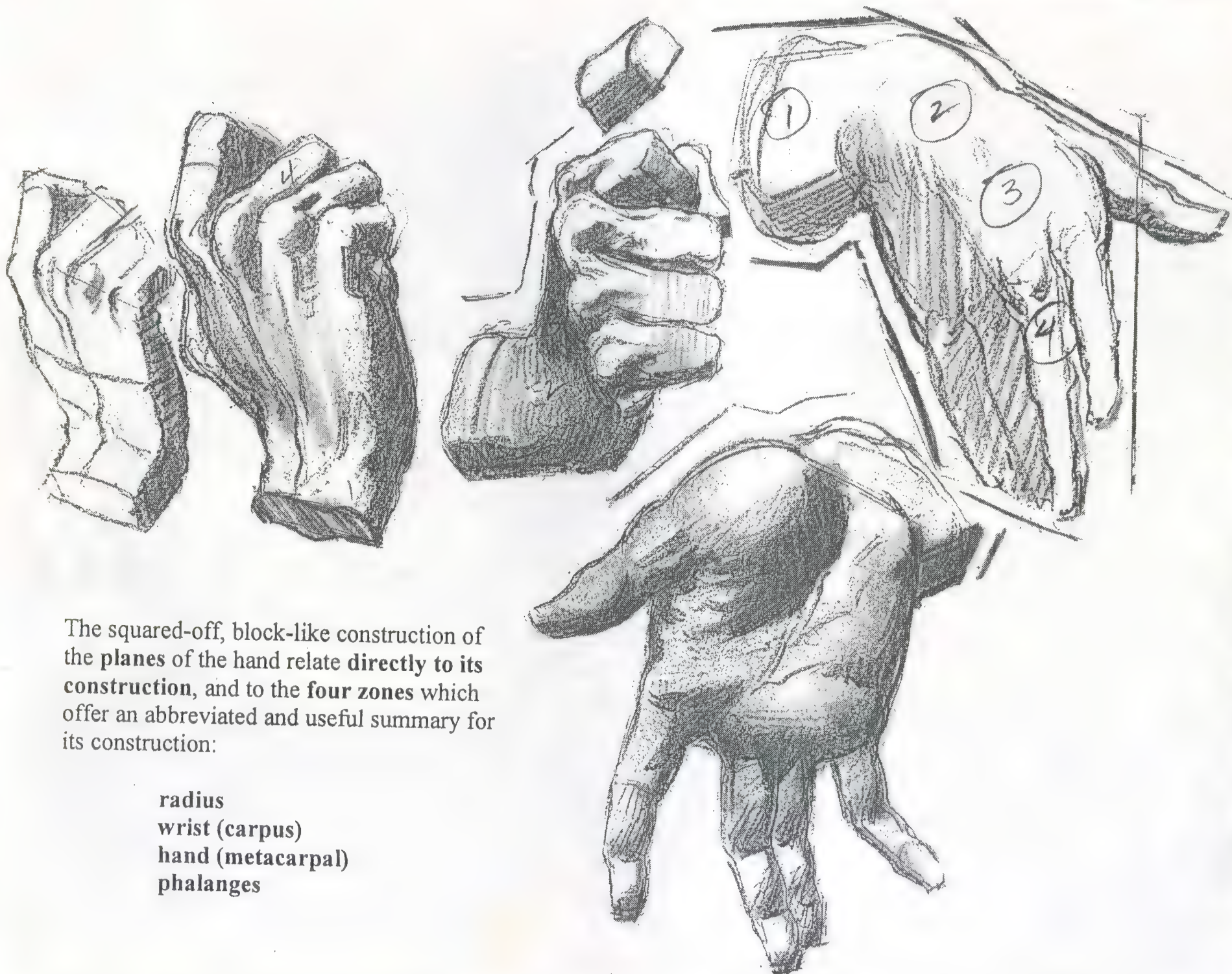
The principal instrument for a working knowledge of **anatomical construction** is familiarity with the joint systems. The **shapes of the bones and their articulations provide for the action**; the action is supplied by the plan of muscle and tendon anchored to certain locations to provide for **particular action in each case**. Geometric models for these systems are helpful in understanding these articulations.

Since **movement** in the figure is a priority, the study of the joint systems or **articulations** will significantly support interpreting the figure and its capacity to move. The shapes of bones at the interface of articulation provide for movement; a basic familiarity with **joint systems** offers significant contribution to **structural interpretation** of the form.



WRIST
ARTICULATION WITH
RADIUS

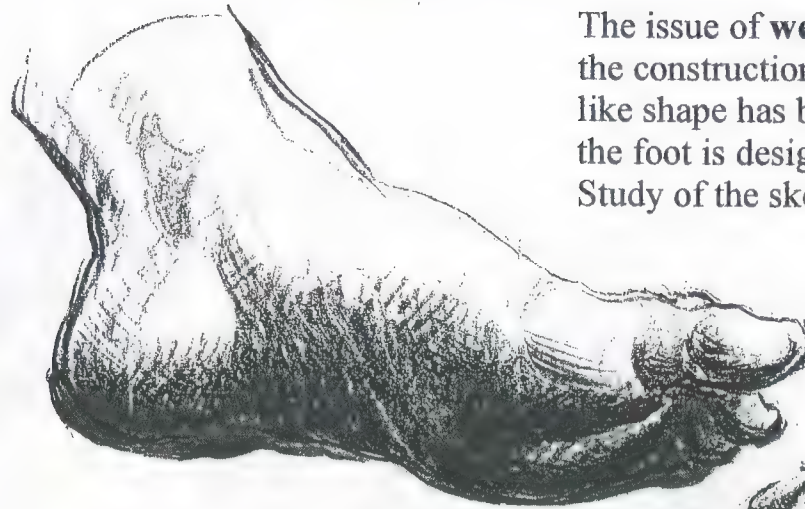
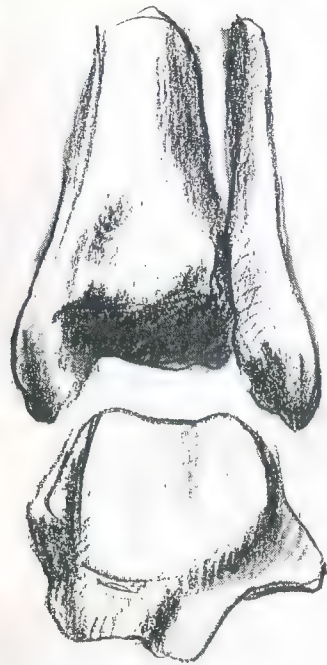


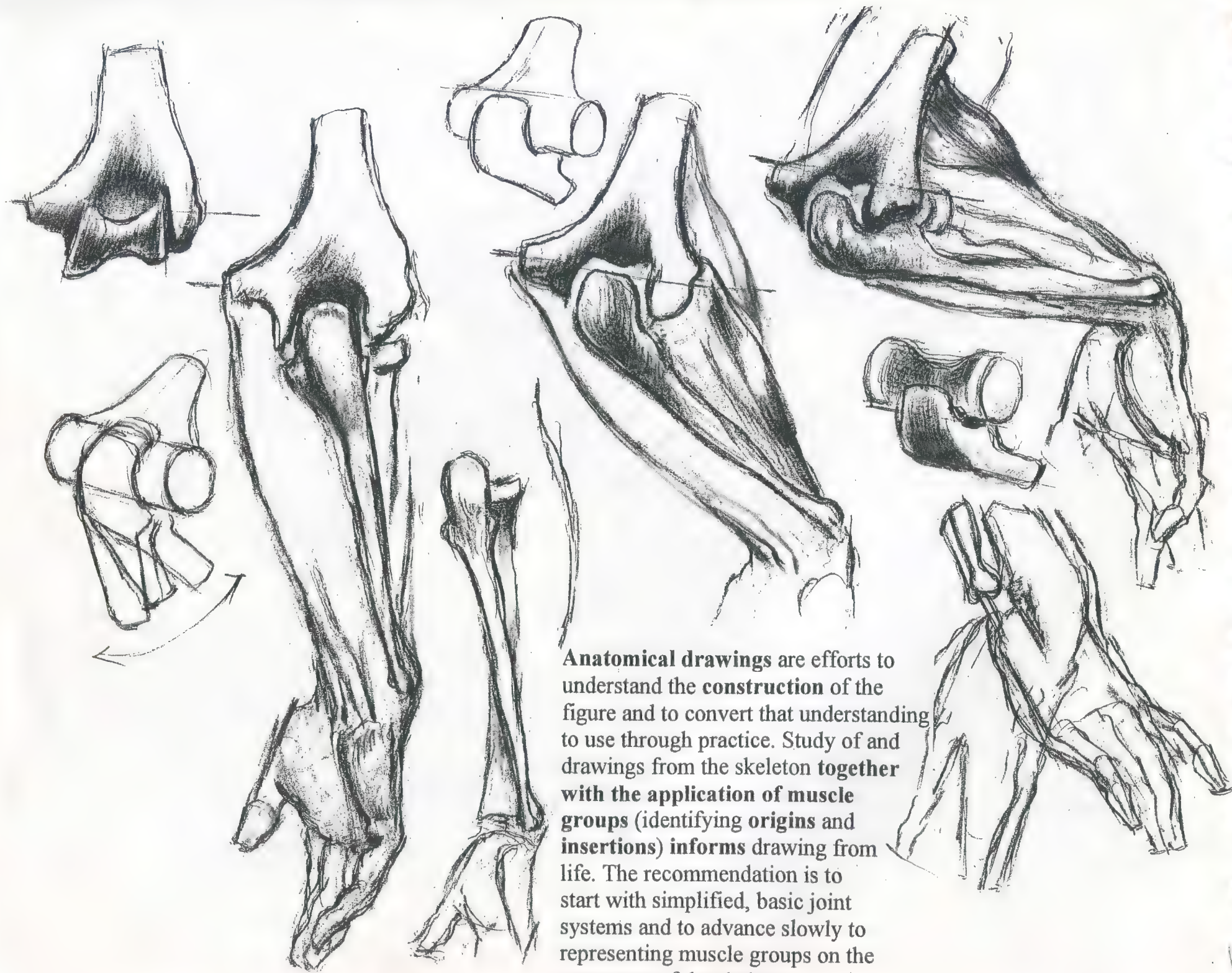


The squared-off, block-like construction of the **planes** of the hand relate **directly** to its **construction**, and to the **four zones** which offer an abbreviated and useful summary for its construction:

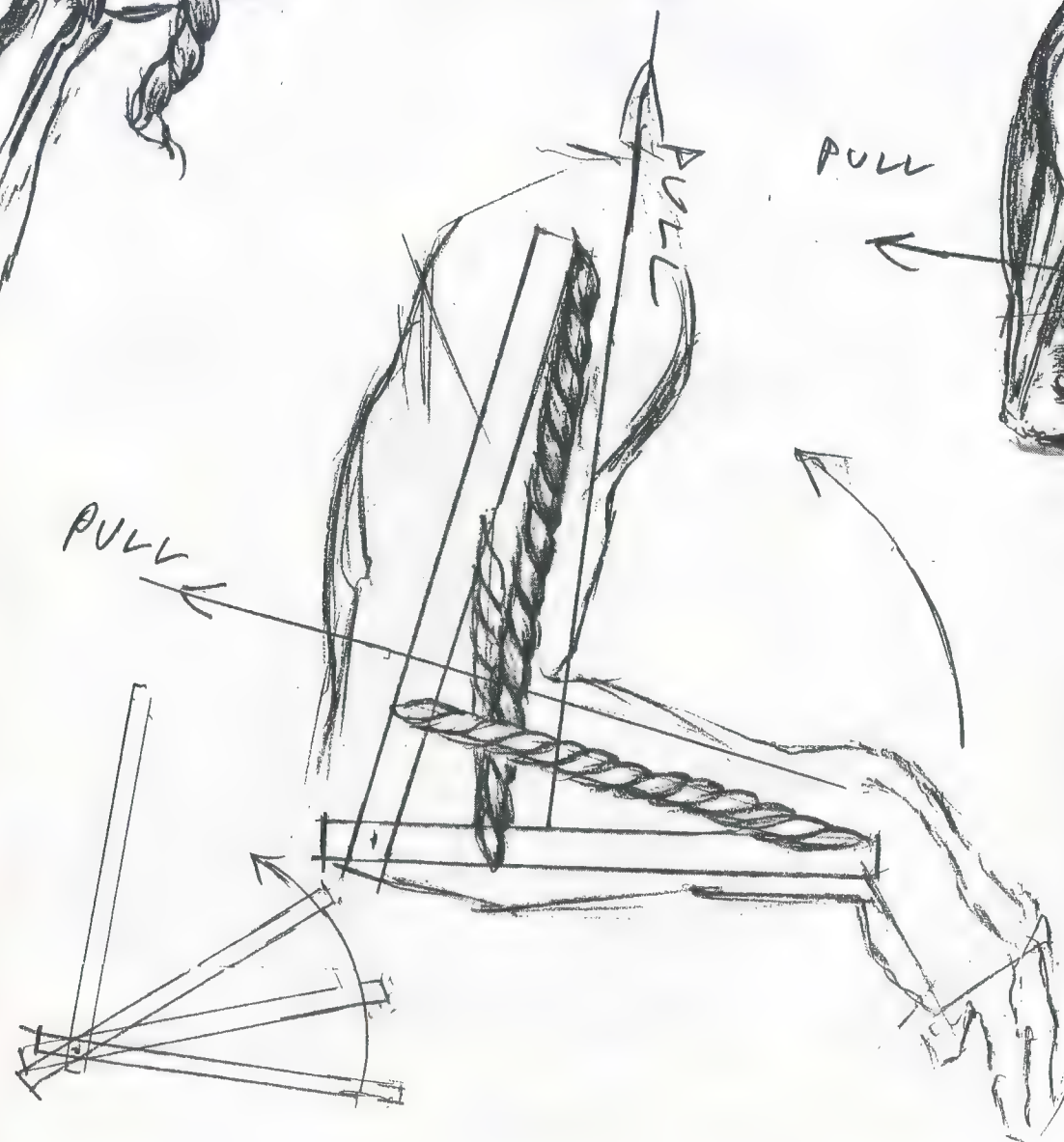
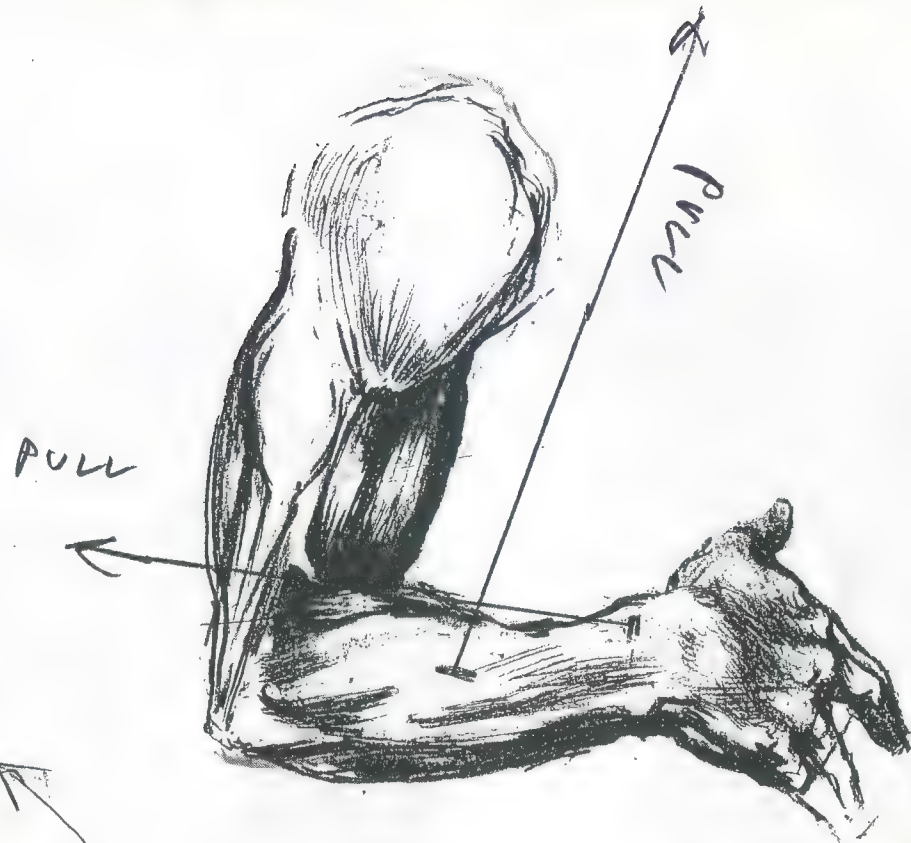
radius
wrist (carpus)
hand (metacarpal)
phalanges

The issue of **weight and its support** is evident in the construction and design of the foot; while its wedge-like shape has been used for many of these drawings, the foot is designed for balance, weight, and movement. Study of the skeletal structure reveals the plan.



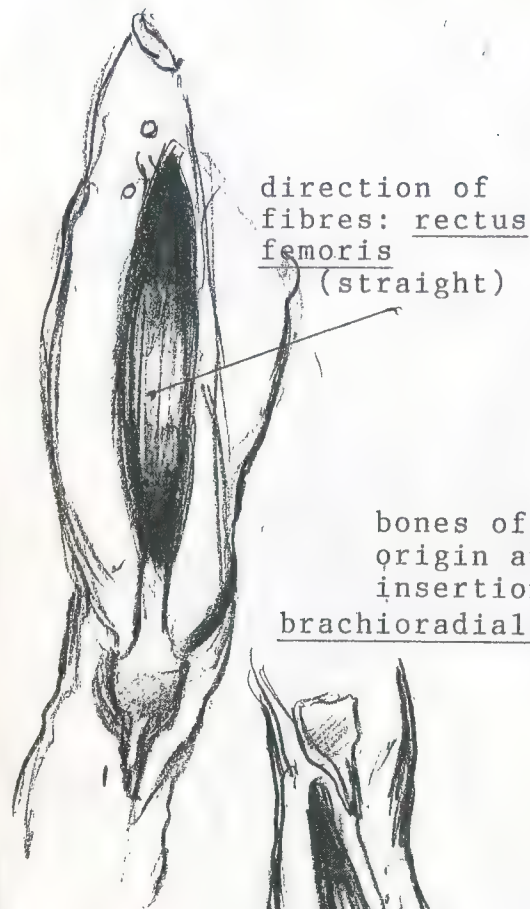


Anatomical drawings are efforts to understand the **construction** of the figure and to convert that understanding to use through practice. Study of and drawings from the skeleton **together with the application of muscle groups** (identifying **origins and insertions**) informs drawing from life. The recommendation is to start with simplified, basic joint systems and to advance slowly to representing muscle groups on the **armature** of the skeleton.



Muscle contracts acting like a pulling rope in putting joints into action. This is a useful analogy for a draftsman since it can explain certain actions, suggesting location of both **origin** and **insertion** for a muscle involved with that action.

Flexing the arm involves **biceps**, **brachialis**, and **brachioradialis** – all three of which are represented by ropes in these drawings.



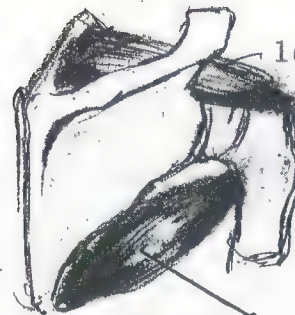
direction of
fibres: rectus
femoris
(straight)

bones of
origin and
insertion:
brachioradialis

location:
tibialis
anterior



number of
parts: biceps

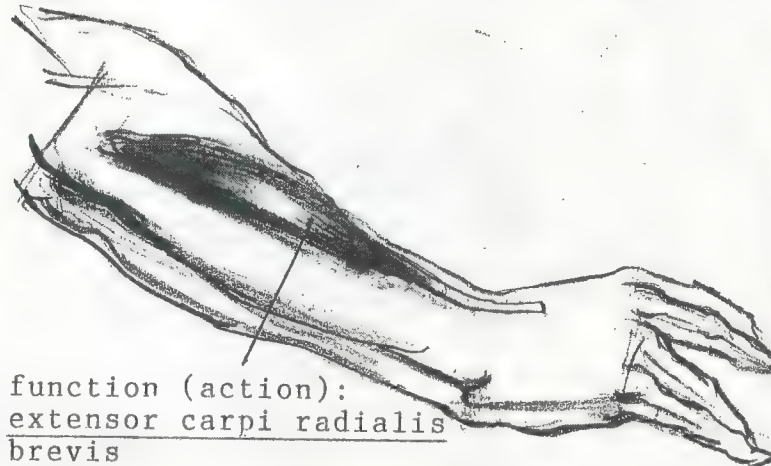


location: above spine
of scapula:
supraspinatus

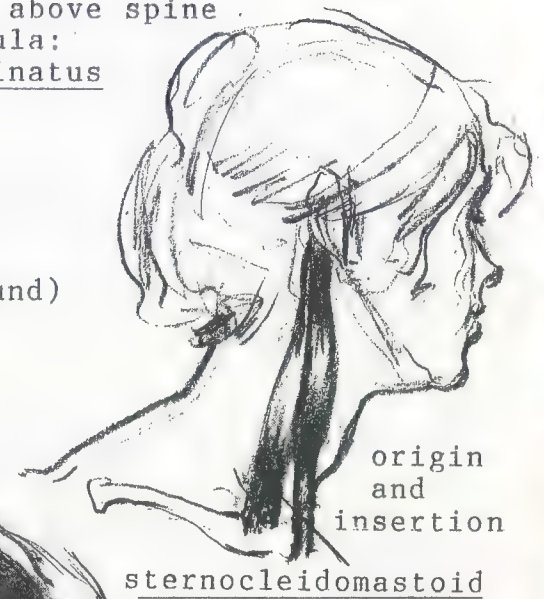
shape: teres (round)
major



size and location:
vastus lateralis



function (action):
extensor carpi radialis
brevis

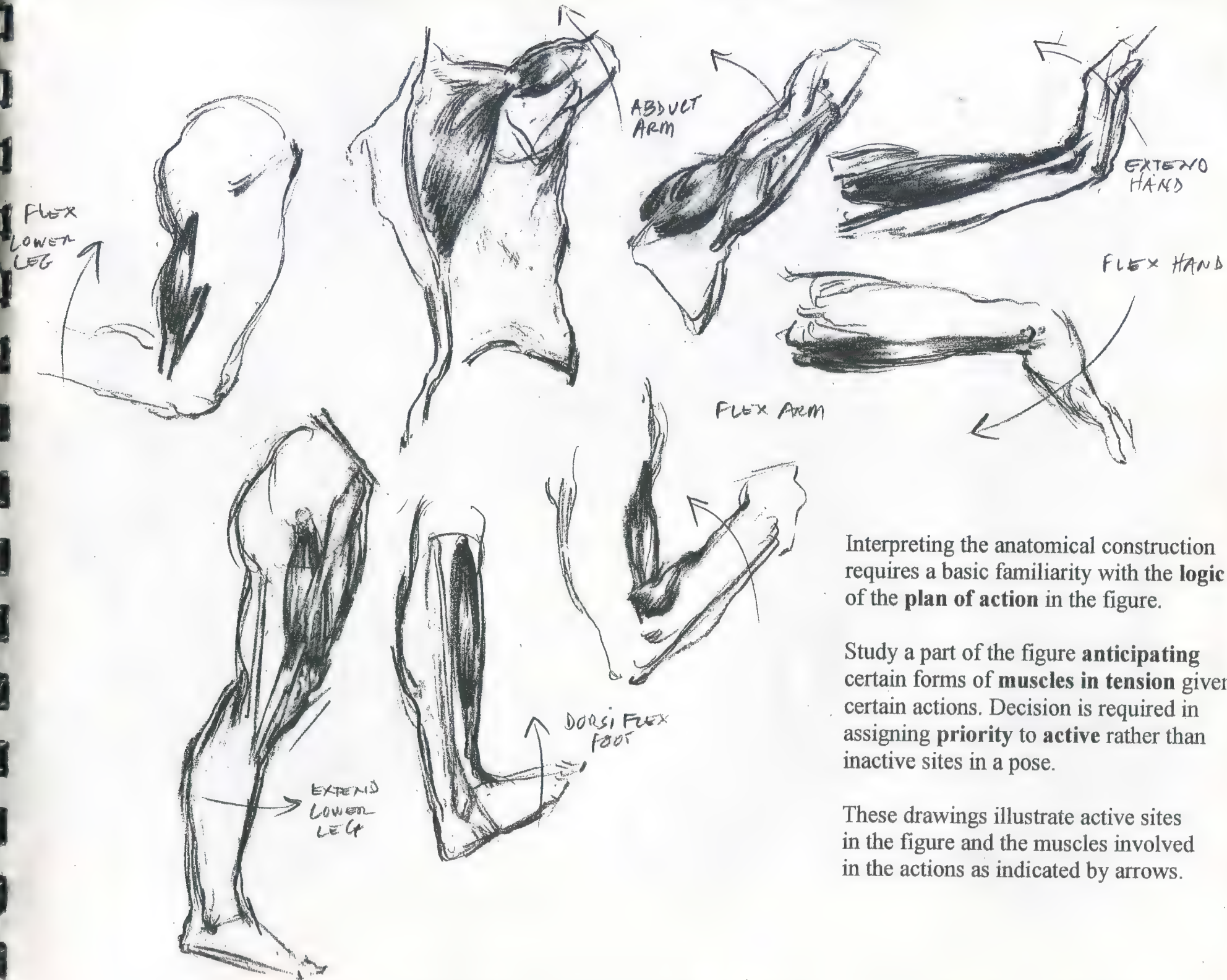


origin
and
insertion
sternocleidomastoid



relation and
direction of fibres:
external oblique

Names are assigned to muscles (muscle nomenclature) according to the various attributes or functions of each muscle.

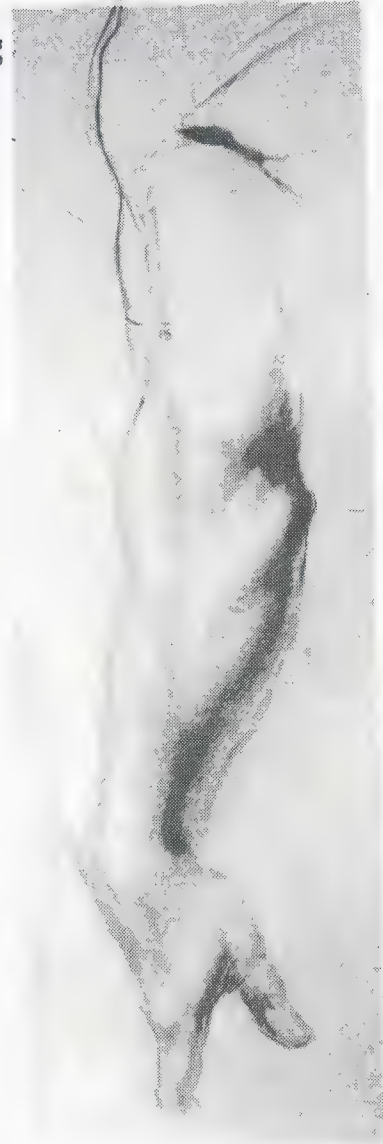


Interpreting the anatomical construction requires a basic familiarity with the **logic** of the **plan of action** in the figure.

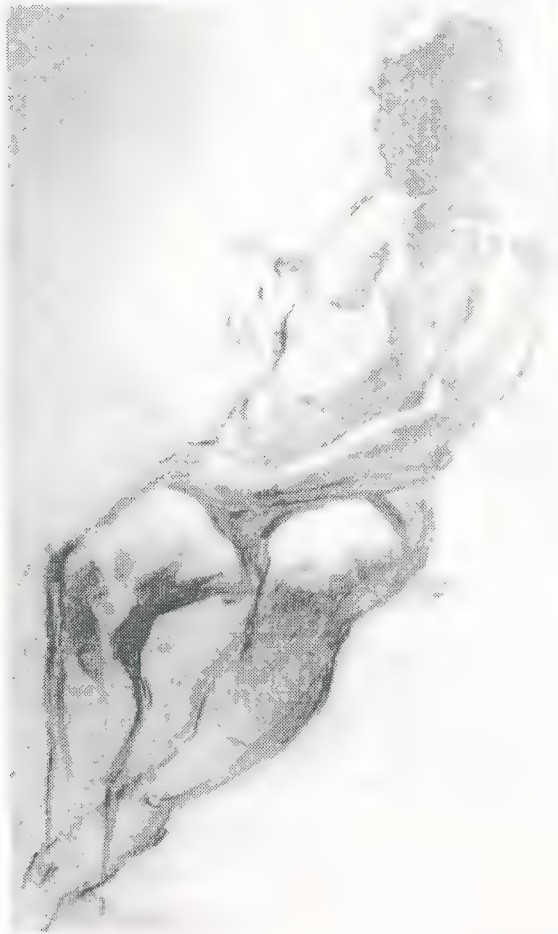
Study a part of the figure **anticipating** certain forms of **muscles in tension** given certain actions. Decision is required in assigning **priority** to **active** rather than **inactive** sites in a pose.

These drawings illustrate active sites in the figure and the muscles involved in the actions as indicated by arrows.

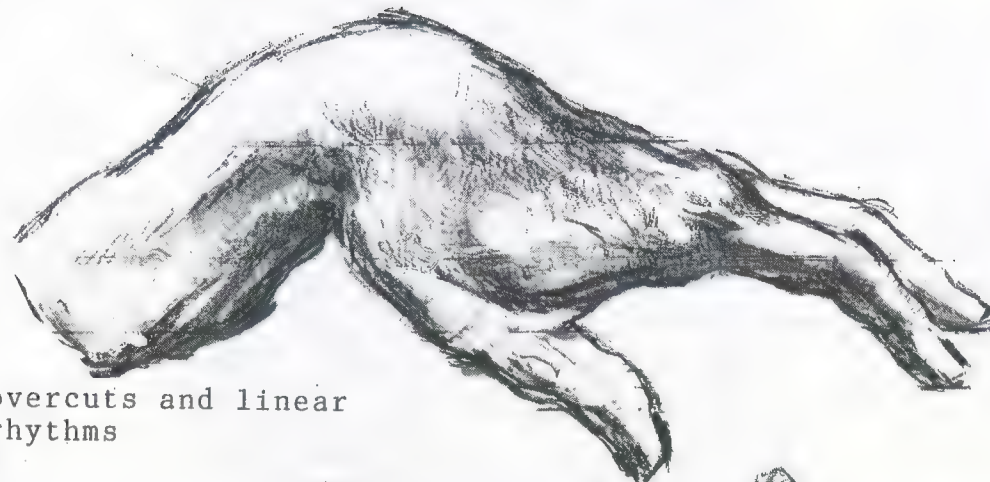
Knowing the location of the muscle groups- their function, relation, origins, and insertions- can contribute much to **interpreting figure structure** in a way that targets those parts which are **in action** and deserve attention. In these examples **selection and subordination** of structural elements guides the drawing. The idea is to bring authority to a figure drawing through the support of whatever one has studied and learned **added to** what one perceives .



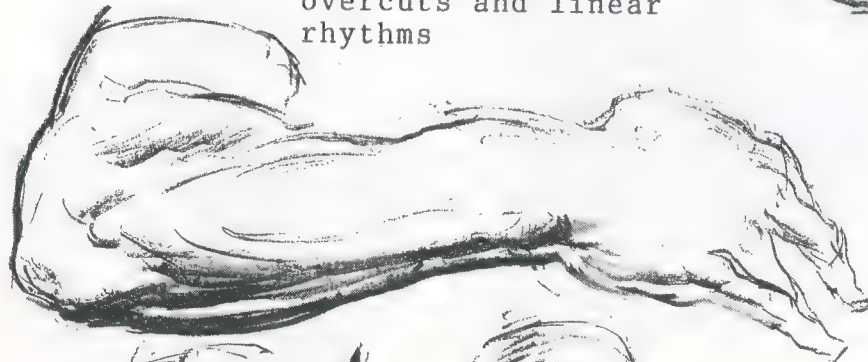
Reinforce what you see with what you know. This has been an axiom of figure drawing since the Renaissance. The rationale is clear: light may or may not reveal those **structural elements** used to **construct** a drawing. Knowing something about figure construction **will significantly inform** a drawing; most Master drawings are *écorché* studies to a degree and were made to study structure.



contour modeling



overcuts and linear rhythms



slight modeling
of light side



linear ecorché



subordination of light
side values



cross-contours

Anatomical drawing seeks the representation of structure. In some instances a **linear** approach offers the most clear and detailed anatomical sequence; in other instances **modeling the form** may better reveal structural elements. It is important to know that these valuable **options** exist and that they may be used separately or in combination.

In drawing one may select strategies which are suitable for representing that which is **intended**. This sheet illustrates five strategies – from linear drawing to modeling in full light and shade. Some thought as to which method for representing **form and structure** would best serve in a certain situation will **guide** the drawing to its intended purpose:



full light and shade

linear with some modeling
linear écorché
full light and shade
combined linear and modeled
schematic modeling



Deltoid
Triceps
Scapula
Ribs
Erector spinae group
External oblique
Iliac crest
Gluteus medius
Gluteus maximus
Vastus lateralis
Biceps femoris



The **harmony of anatomical structure** often presents itself through essentially **parallel sets of lines occurring in repetition throughout the figure.**

This observation is characteristic of both **skeletal landmarks** as well as in the strong **directional lines of the musculature.** The objective of drawing parts **in relation to** each other is well served and put to direct use by noting this succession of closely parallel lines **characteristic of anatomical construction.**



Sternocleidomastoid
Pectoralis major
Ribs
External oblique
Iliac crest
Tensor fasciae latae
Gluteus medius
Sartorius
Vastus lateralis
Tibialis anterior

Drawing is best served by an attitude of openness and unobstruction rather than to be held to fixed limits and rules if it is to be meaningful and authentic.

There is no reason why a good idea, strategy, or observation should necessarily be withheld from making its contribution to drawing.

No strategy or suggestion serves the draftsman every time in the same way but for intelligence, experience, and an attitude toward the work of the studio which remains honest in its purposes.

Theory – the way things should work – must submit to **practice** – the way things actually work – but both make their contribution.

Power of mind and skill of hand remain the principal assets.

It is a fact that the world is not a uniform whole, but a collection of different parts, each with its own characteristics and its own laws. The study of these parts is the object of the sciences, and the study of the whole is the object of the philosophy.

There is no doubt that the world is a complex whole, and that the study of its parts is a necessary condition for the study of the whole. The study of the parts is the study of the details, and the study of the whole is the study of the general principles.

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